The MODERN HOSPITAL

Vol. I November, 1913 No. 3

Copyright, 1913, by THE MODERN HOSPITAL PUBLISHING COMPANY.
Entered at the Post Office at St. Louis, Mo., as second-class matter.

EFFICIENCY IN ANESTHESIA

The courage and skill of the surgeon must be supplemented by an absolutely pure anesthetic.

Courage, skill, and the right anesthetic represent the highest standard in surgical efficiency.

Ether-Baskerville and **Chloroform-Baskerville** are prepared under the personal supervision of Dr. Charles Baskerville, of the College of the City of New York, who devised the special processes of purification.

Ether-Baskerville contains 96% by weight of absolute ethyl ether, or ethyl oxide, and 4% by weight of absolute ethyl alcohol, and is free from the usual contaminating acetaldhyde and water.

Chloroform-Baskerville contains 99.2% by weight of absolute chloroform (chloroform free from all impurities) and 0.8% by weight of absolute ethyl alcohol (alcohol free from all impurities). It is absolutely free from contaminating water, organic impurities and extractive matter.

Ether-Baskerville and **Chloroform-Baskerville** are put in non-soluble, anactinic glass ampoules (not tin containers) of 60 cc. (2 fluid ounces) and 120 cc. (4 fluid ounces) capacity.

These products will stand the most rigid tests for purity.

We will send our interesting booklet on request.

LEHN & FINK **120 William Street** **New York City**

"CHINOSOL"

A MORE POWERFUL ANTISEPTIC THAN BICHLORIDE OF MERCURY, AND VERY MUCH STRONGER THAN PHENOL

INTENSE INHIBITIVE FORCE. NON POISONOUS

But

1 Non-poisonous
2 Does not coagulate albumin
3 Does no injury to membranes
4 Does no damage to tissues

5 Does not break down granulation
6 Causes no irritation
7 Has marked analgetic power
8 An instantaneous deodorant
9 Costs about three cents a quart

Sample and Full Literature on Request

CHINOSOL CO.
PARMELE PHARMACAL CO.
54 SOUTH ST., N. Y.

THE MODERN HOSPITAL

A Monthly Journal Devoted to the Building, Equipment and Administration of Hospitals, Sanatoriums, and Allied Institutions, and to their Medical, Surgical and Nursing Services

Vol. I — *November, 1913* — No. 3

HYDROTHERAPY IN THE TREATMENT OF THE INSANE.[1]

Details of Methods and the Physics and Physiology of Various Applications—How the Work is Actually Done.

By MARY O'MALLEY, M. D.

SENIOR ASSISTANT PHYSICIAN, GOVERNMENT HOSPITAL FOR THE INSANE, WASHINGTON, D. C.

THE work of the last ten or fifteen years has established hydrotherapy in the treatment of mental diseases on a firm basis in this country, so that it can no longer be disregarded as a valuable means of practical therapeutics. At various periods in the history of psychiatry there have been sporadic attempts to treat the insane by hydriatic means. The old-fashioned ducking pool, where patients were thrown "headlong into a cold bath," repeated until the patient was too exhausted to leave the bath without assistance, may be cited as an early attempt at hydrotherapy. The elaborate therapeutic plants, with appliances for the use of all the various baths, which in recent years have been installed in most of our psychiatric hospitals in this country, are indications of the present-day demands for hydrotherapeutic treatment, which, especially in the disturbed wards of our psychopathic hospitals, has brought about markedly improved conditions.

The government hospital was one of the first in this country to recognize the value of water in the treatment of mental diseases. Hydrotherapy was introduced in this hospital in 1897 by the late Dr. W. W. Godding, under the direction of Dr. Foster, who applied it first as a remedial agent in the form of packs in the wards and by means of improvised continuous baths while awaiting the construction of the plant, which was then in the process of installation. In the year 1898 this new outfit was completed in the basement of the Oaks Building, which was at that time occupied by male patients, and was used effectively. This same plant has been in constant use ever since, for the past ten years the Oaks Building being occupied by colored women, and at the present time in this one hydriatic department alone are treated daily from forty to fifty colored women. Some of the results of this early work of Dr. Foster are reported by him in a paper in the *American Journal of Insanity*, 1899. Baruch, the great American hydrotherapist, referring to this article, states that "Dr. Foster was the earliest asylum physician to seek instruction in hydrotherapy from the author; to his able clinical demonstration is the phenomenally rapid adoption of hydrotherapy in asylum practice to be traced." Ten years ago, in 1903, the work was extended by the completion and opening of two new psychopathic buildings, one for male and one for female patients, and in the basement of each building is located a complete hydriatic plant. Thus we have three hydric departments, in addition to the continuous baths which are located in each of the receiving wards, in constant use in the hospital.

There has been great interest in our work displayed in this country by members of the medical profession visiting this hospital, who themselves are organizing hydrotherapy departments in their institutions, or who have such departments

1. Alter: Zur Hydrotherapie bei Psychoses, 1903. Zentralbl. f. Nervenheilk. und Psychiatr., 1903.
2. Arango de la Luz: El bano tibio prolongado y el reposo en la cama, como medios de combatir ebicaz mente la agitacion en los enagenenados. Rev. med. Cubana, Habana, 1911.
3. Barde: Hydropathic clinic.
4. Baruch: Hydrotherapy, 3d edition.
5. Dana: Text-book on Nervous Diseases and Psychiatry.
6. Foster: Journ. Insanity, 1899.
7. Hinsdale: Hydrotherapy. Philadelphia, 1910.
8. Kraepelin: Psychiatrie, Achte Auflage.
9. Maloney: Hydrotherapy and Balneology. Therapeusis of Internal Diseases, Forcheimer, Vol. I.
10. Reid: Autopsychology of the Manic-Depressive. 1910.
11. Sadger: Hydryatik der Hysterie und der Zwangneurose. Zentralbl. f. Nervenheilk. und Psychiatr., Vol. XXIX, 1906.
12. Tuttle: Hydrotherapeutics. Proc. Amer. Medico-Psychological Assn., 60th annual meeting, 1904.

already installed, and are earnestly seeking the best means of the employment of water effectively. We have frequently received inquiries as to our methods of psychiatric hydrotherapy, together with communications requesting our recommendation of suitable persons to conduct similar departments in other hospitals, both general and psychiatric.

It is to be deplored that the application of water was not earlier adopted and has not been more fully appreciated in the past in our hospitals for mental diseases. The effects we have obtained from the use of hydrotherapy in this hospital have been extremely satisfactory, for by it we are enabled to exclude all forms of restraint and, in a large degree, isolation. The longer we use hydrotherapy, the more we are convinced of its unrivaled supremacy over all other means of treating certain symptoms, and the conviction becomes stronger every day from the results obtained and from the extensive scale in which we have been able to employ it.

There is little opportunity for the medical student of today to have a comprehensive grasp of this special branch of therapeusis. The average text-book on therapeutics rarely refers to this subject, and when it does the information is, as a rule, unreliable, and, with the exception of Columbia University, where a course of lectures and clinical demonstrations has become obligatory in the past few years, this study has been entirely neglected in this country.

As a rule, hydrotherapy is not looked upon with special favor by the general practitioner, and the average psychiatrist is more or less ignorant of its use. Baruch, in discussing this subject, says: "It is a sad commentary on the lack of interest displayed in hydrotherapy to note that, despite the fact that a few discerning minds have grasped the principles and applied the technic of hydrotherapy in insanity, the majority of hospital physicians seem to the writer to be unaware that precision and exact technic are the essentials of successful hydrotherapy." The attitude of indifference among the profession is, for the most part, due to the fact of its extensive advertising and its use by charlatans and quacks. Then, again, on the other hand, many conscientious physicians have become disappointed when the results they expected were not realized, but this is probably due to the fact that they anticipated too much from hydrotherapy, or had an insufficient knowledge of the physiologic and therapeutic action and methods of application. The remedy for this indifference and inexperience is the introduction of a complete course of compulsory instruction in the curricula of our medical colleges and an education of the general practitioner by reading works on hydrotherapy.

In this paper there is no pretension to offer any new observations in the application of water as a therapeutic agent, but the reasons above enumerated are in a degree an incentive for placing this article before the public. Therefore, we will confine ourselves to the discussion of the problems which are of current interest in this mode of treatment in a large public institution. These problems are in part scientific and in part practical. The chief scientific problems at the present day are undoubtedly the correlation of the use of water in the general scheme of treatment in a hospital of this class and the best methods of application to produce effectiveness, while the practical problems to be considered are the resources, expense, personnel, technic, etc. Then, we will first consider the physiologic action with its application to mental disease, the general management and organization of the work, the nature of the methods, the measures employed, including the various means of employment, its therapeutic use, with a summary of the results obtained thereby.

PHYSIOLOGIC ACTION.

It is recognized by all today that there exists a rational basis for the employment of hydrotherapy. During the past half century the work of Winternitz, Baruch, and others has established the physiologic principles on which the action of water on the human economy depends. Water has a wide scope of application in pathologic conditions, deriving its varied powers from its capacity for gradation. It can be used as a vapor, a liquid, or a solid. It can be used in applying heat and cold to the body, as an unadulterated agent, or with medicinal properties in solution added. It can be applied with various degrees of pressure in the form of showers, sprays, etc. The physical forces—cold, heat, and pressure—produce the physiologic action from which the resultants are received that combat disease. The physiologic action is produced through the skin or surface of the body, and the reaction of the blood vessels and nerves in the skin to the physical forces applied by the water is an indication of the effect produced by it. The physiologic effects are eliminative, stimulative, sedative.

Cold.—The effects of the employment of cold water on the body vary with the degree of temperature and the duration as well as with the extent of surface exposed to this stimulus. The prolonged use of extremely cold applications lowers the body temperature as well as the vitality of the parts exposed. Cold water exercises a powerful influence on the nervous system, respiration, temperature, and circulation, as well as on

the blood pressure and musculature. When the body comes in contact with cold water, the patient experiences a light shock, a lively sensation of cold; the muscles tremble, there is a quick inspiration, then a pause, followed by a long expiration, then frequent shallow breathing. These transitory conditions are soon replaced by warmth and repose. The first effect of cold on the periphery is to cause contraction of all the tissues of the skin—vascular, muscular, and fibrous—producing a diminution in the caliber of the cutaneous capillaries and an increase of blood to the deeper bodily structures. Promptly the healthy afferent nerves

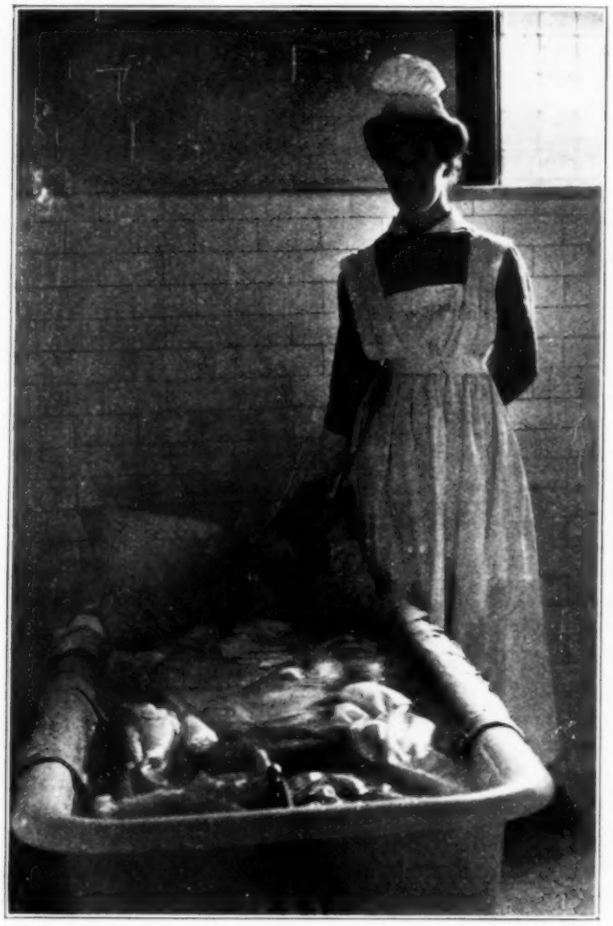


Fig. 1. Continuous bath. Government Hospital for the Insane, Washington, D. C.

signal for a greater supply of heat, and the efferent nerves respond by causing a dilatation of the blood vessels in the chilled area, with an accompanying hyperemia of the peripheral circulation. This is accomplished by increased heart action, raising of blood pressure, and the vasodilatation causes an increase in the secretions of the skin. It is claimed that after the muscular fibers of the skin contract under the influence of the cold they retain more or less of this tonicity, serving as a check to the subsequent overdilatation of the blood vessels, and thus maintain a higher blood pressure. We thus have a local effect on the circulation when a peripheral contraction is followed by a dilatation of the blood vessels, provided the application is brief enough. Too long an application causes a paralysis of the cutaneous blood vessels, with cyanosis—hyperemia of an atonic variety. After the first vasodilatation takes place, a pleasurable sensation of warmth that induces calmness and a feeling of well-being exists. This is described as "the reaction" in cold baths. To obtain it in the greatest degree, caution should be observed to apply the stimulus in relative proportion to the patient's physical resistance or reactive capacity. If a reaction is not established, a dangerous congestion of the viscera may result. After the first effects of the cold, if the heart is strong enough to return the blood to the surface, there has been a healthy flushing of the internal organs, with their increased activity. Dr. Dana, discussing the effects of cold baths, says: "Cold baths systematically taken furnish a kind of vasomotor gymnastics; the neuromechanism controlling the blood vessels becomes more subtle, and the tendency to local congestion of the viscera and mucous membranes is prevented."

In cold baths the immediate effects should always be tonic or stimulating, and careful attention should be given to obtaining a reaction—that is, a prompt return of the blood to the surface vessels. It is difficult to define a reaction, and opinions differ in regard to it. This is especially true when the patient feels exhilarated and warm immediately after the procedure, but becomes chilly on the least exposure, or spontaneously in the next half hour. The rapidity and degree of reaction vary greatly in different individuals, and there is also a variation in the reaction in the same person at different times, according to the patient's condition. Some weak and sensitive patients never can be made to react, and even healthy people should use caution in taking these cold baths when they are tired. In our experience failures to react are always associated with slow peripheral circulation. The reaction is tardy in the feeble and the weak, but develops rapidly in the robust.

Heat.—We know that heat is one of the most powerful stimulants, and, if the application is prolonged, it becomes depressive, and this depression may remain for some time after the treatment has ceased. The initial effect of heat is stimulating when applied to the skin; first there is a vasoconstriction of the cutaneous capillaries, which in cold applications is maintained, but with heat is rapidly replaced by vasodilatation, with a lowering of the blood pressure, which persists as long as

the heat is applied. Heat calms more slowly than cold, and in a gradual and insidious manner. From long and repeated hot baths there is a lessened heat production, a lowering of blood pressure, and an elevation of the body temperature. These all diminish nervous and muscular energy, bring about exhaustion, and have a depressing effect on the heart. It follows that the application of prolonged heat must be avoided with as much care as the application of cold should be encouraged and promoted. The hot pack has, however, a sedative action, and after the vascular dilatation in the cutaneous circulation the body becomes warm, sweating is increased, and radiation is promoted. From this increased circulation in the skin the cutaneous sensibility is lessened, blood is withdrawn from the central viscera, the exhalation of carbon dioxid is increased, metabolism is increased, pulse and respiration are increased, and the general effect is sedative and a feeling of languor ensues.

Pressure.—The forcible impact of water upon the body by the needle douche and shower at a given pressure acts like a general massage on the human body. Its application does not abstract heat, but by the force of the water the superficial blood vessels are first contracted, then dilated, and the general tone of the circulation and musculature, as well as of the secretory functions of the skin, is improved. This force is applied effectively either with hot or cold water, or a combination of both. The pressure may be applied with such force as to cause considerable depression and languor lasting for several hours. The general effects of this treatment are tonic and sedative as well as eliminative.

Tuttle, under whose observation some experiments were made in the McLean Hospital, discussing the effects of baths, states: "While my observations thus far do not sustain some of the claims made for hydrotherapy, there are sufficient reasons for its use; not the least of these is the fact that it can be adapted to the physical condition of any patient. It seems to act like exercise on the respiration, circulation, blood pressure, and temperature without exertion on the part of the patient. There probably is also a very prominent effect on the action of the blood vessels, as is shown by the quicker and more perfect reaction with the continued use of the baths."

Psychiatric hydrotherapy has not yet reached the maximum of its usefulness; it is still in its infancy, and there remains a large field for its extension to secure for water its proper place in this special branch of therapeusis. It is only within recent years that an attempt has been made to establish psychopathic pavilions and introduce a general hospital atmosphere into our institutions for the insane. Together with this innovation psychiatric hydropathy has been coordinate. The use of water as a medium in its various forces markedly influences all the vital processes, thus making it valuable as an application in mental diseases. Hydrotherapy is exceptionally adapted to treating diseases of the nervous system, but more especially in cases of mental alienation, with the accompanying various somatic disorders, including disturbances of the secretory and excretory functions, anemia, loss of appetite, reduction of weight, insomnia, etc. In excited states the sedative effects calm the patient by relieving cerebral hyperemia. In toxic psychoses as an eliminative it is unsurpassed. Its general effects are stimulative and tonic in impaired nutrition and enfeebled circulation.

EQUIPMENT OF THE PLANT.

All large public institutions for the insane should be provided with several hydriatic plants, centrally located, so that the chronic excited class, as well as the acute, can derive the benefits from the water treatment. The relatively small financial means at the disposal of persons in the care of the insane convinces the writer that this unfortunate class is the least adequately provided for of hospital patients. This condition compels us to confine our hydrotherapeutic procedures within narrow boundaries, and forces a limitation of the work. It is not, however, necessary to have an elaborate plant installed to apply hydropathy in a practical way. One can use such appliances as are ready to hand or can easily be devised, and the principles already studied can be utilized. For instance, we can improvise a continuous bath by using the ordinary bath tub, placing two sheets across it, and, if the edge of the tub extends, fastening the sheets in place with clothes-pins, etc. Many elaborate appliances of all descriptions have been devised, but they are found to be more or less useless in practical application.

The hydrotherapy of the alienist has to contend with the most circumscribed possibilities, and a practical knowledge is necessary, for only such hydrotherapeutic measures are applicable in institutions as are especially suited to the conditions and requirements that exist there.

MEDICAL COOPERATION AND CONTROL.

The most important requirement of every hydrotherapy department is an extensive medical cooperation and control. There are scarcely any large public institutions in this country in which a single physician has less than 200 patients in charge. Under such conditions it is absolutely

necessary to limit the hydrotherapy, and the treatments must be confined to measures which dispense with the presence and immediate supervision of the physician and in which only instructions are required. The carrying out of such instructions must be left to the bath mistress and her assistants, and the usual number of nurses, one to seven or eight, in the psychiatric hospitals in this country is much too small to allow them to be occupied with needless work.

In the selection of the methods of treatment the personnel in attendance must, first of all, be taken into consideration. The attendant in charge should be well trained and should have had a wide experience in the sick room—should be one who is constantly vigilant, and who is quick to recognize danger signals. She should be tactful, kind, and alert to any complications that may arise while performing her work. In this hospital

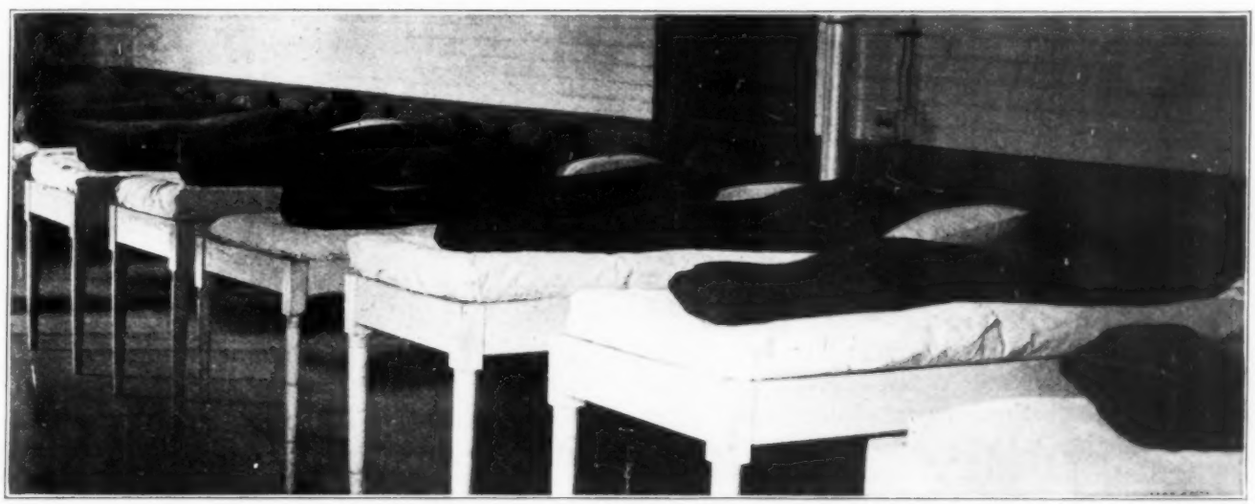


Fig. 2. A row of packs. Government Hospital for the Insane, Washington, D. C.

every nurse in training is given a special course of instruction in the hydrotherapy department. As a rule, the length of term of this course is limited to one month, and during this time the nurse is not required to perform any other duties, but is under the supervision and instruction of the bath mistress, who treats daily, on an average, 100 patients in both departments, white and colored. She is taught the application of various baths, how to manage the control table, and is instructed in all the precautions to be observed to avoid complications. When this young woman is graduated and assumes the charge of a ward, she is prepared to carry out and apply her knowledge in giving these treatments in any department of the hospital. Through this means we are able to extend the baths as packs, shower, and spray in all wards.

THE NATURE OF THE METHODS EMPLOYED.

The methods must be of so simple a nature that such training is possible as is required to make the treatments efficacious and harmless. They must be of such a character that, on the one hand, they relieve the personnel of very great responsibility, and, on the other, reduce the contingent circumstances to such an extent that strict and comprehensive instructions can be given for their application. This necessitates fundamentally confining ourselves to the simplest forms of hydrotherapy—to the exclusion of any complicated measures. Complicated procedures are incumbered by another great disadvantage, for even a carefully trained nurse may be persuaded by a patient to attempt to experiment with specialties in the hydrotherapy room if the opportunity offers itself. For these reasons the writer would exclude all novelties in hydrotherapy in large institutions, even if there were not, as there is today, a most deciding factor against them—namely, the relatively small financial means at our disposal, which makes saving the great principle and everywhere the guiding object. Only when all complex methods are dispensed with is hydrotherapy a cheap method of treatment.

Therefore, the demands on the physicians, insufficiency of personnel, and the lack of funds limit not only the extension of hydrotherapy qualitatively, but also quantitatively restrict its sphere, necessitating the relegation of the more complicated measures to the clinical side and to the receiving wards. For all other patients the most primitive methods of hydrotherapy alone are to any degree practicable.

The most important sphere for hydrotherapy is in the psychopathic wards or receiving service.

These wards are the most important section of any institution, and, as a rule, the organization here is the standard of its methods and character. This section receives the best part of the possibilities of institutional treatment, for here the most difficult questions in the management of the hospital arise. Hence this department is the most important domain for the extension of hydrotherapy in the hospital.

Hydrotherapy is capable of good and it is also capable of doing harm, and all conditions must be taken into account, so that it may combine the greatest benefits with the least possible injury. Two of the greatest benefits consist essentially in securing quietness in the day and sleep at night. These are among the main objects to be obtained —to keep the patients quiet, and, what is most important, to maintain a hospital instead of an insane asylum. The sustaining of the general hospital tone in an institution of this class is of the greatest significance to the patients. We win thereby both our position and theirs in the estimation of the public. The lack of knowledge on the part of the laity concerning the conditions which prevail in psychiatric hospitals is everywhere apparent, and, as a rule, the sources of information are the opinions and reports of those who have been released from treatment. The public will learn to respect psychopathic hospitals as they respect general hospitals when the patients who are cared for in them learn to respect them. It is in the receiving wards that patients form their first opinions, favorable or unfavorable, and it is in these sections they must learn to have confidence in the institution. It is here that the hospital atmosphere must be supported as far as possible, and to do this nothing is more important than quietness. Therefore, the writer considers quieting the patients one of the most worthy objects of the whole treatment and one of its essential problems. To secure this object every means seems right which does not require too much compulsion, or where the force required in the compulsion does not outweigh the benefit. And, to quiet a noisy patient, a hot or cold pack two or three times daily is better than to have the whole ward disturbed. On the other hand, under these conditions we can dispense with hypnotics and isolation.

Alienists should make every possible effort to educate the public to properly evaluate the psychopathic hospitals, and the dispensing with isolation and restraint, either mechanical or chemical, is one of the important factors of this advance in education. While the former may be of use occasionally, it has a harmful influence on the other patients and injures a good cause. It also has a tendency to destroy the confidence of the patient, and doing away with isolation or seclusion is a progressive factor toward humane treatment. Another result of this treatment which must not be underestimated, either from a clinical or a pecuniary view, is the reduction or elimination of sedatives. It is contradictory treatment to administer sedatives which are recognized by many therapeutists to be harmful to the patient. There are no hypnotics which are not injurious, and they have an especially harmful effect on unstable neurotic individuals. From clinical experience during the past few years many cases have been admitted to this hospital suffering from drug delirium in which we were able to trace the etiological factor to the administration of sedatives, bromides, morphine, hyoscyamine, etc., or a combination of these drugs. Then, why continue a so-called remedy which we know to be deleterious? With this elimination of medicinal treatment we meet the approval of our patients and their friends, and more especially most of the intellectual class, who are imbued with an antipathy to drugs.

Every reasonable form of hydriatic treatment should be carried out that does not produce a subjective feeling of mistreatment. In any ward the patients are few who willingly allow themselves to be placed in packs without some resistance at first, and for a small number a more or less mild compulsion is necessary. As a precautionary measure, no patient should be given a treatment unless she has first had an opportunity to see other patients treated, for, if the treatment is not immediately looked upon by the patient herself with disapproval, there are always some wise ones about to suggest abuse, and, if the treatments are to be of real value, they must not arouse the unfavorable criticism of either the patient or nurse; the tendency to such criticism is always present, and sometimes it is not without foundation. If a physician leads the patient or nurse to believe that a cold pack is given because the patient has become unmanageable or is vicious, the whole spirit of the treatment is lost. Patients, as well as attendants, should not regard the baths, and especially the packs, as punishment, as they sometimes do isolation, but rather as a beneficial medicinal remedy. From practical demonstration of the hydropathic packs and treatments the nurses soon come to have a comprehension of their pacifying effects on excitements and other mental states otherwise than from theory alone.

HYDRIATIC MEASURES.

In order to obtain the requisite degree of technical simplicity, neutrality, and efficiency, uninfluenced by individual factors, the writer limits the hydriatic measures to the continuous bath, hot

and cold packs, hot air baths, spray and needle bath, Scotch douche, and sitz bath. A salt glow or rub with moistened salt frequently is given in connection with the shower or needle.

On admission all patients, whatsoever their form of mental disease, except the senile psychoses, are given a systematic treatment in hydrotherapy. There is seldom an indication for this treatment in cases of senility, but under the supervision of a careful bath mistress the arteriosclerotic and senile excitements can be treated with excellent results in the continuous bath, cold or warm packs, as indicated; but, of course, in giving these special measures the psychotherapeutic as well as the physiologic results are anticipated.

Our continuous bath tubs are conveniently located in our receiving wards, and in a way are

Fig. 3. Properly applied pack. Government Hospital for the Insane, Washington, D. C.

independent of our hydriatic department, and this method of treatment, together with the hot and cold baths, is used in these wards at any time they are indicated. All the other patients are treated in the hydriatic department, where on an average 100 women daily receive the baths. The hydriatic rooms are in operation from 8 a. m. to 4 p. m. While there is no hard-and-fast rule for each patient, yet the cases of excitement are prescribed the continuous baths and hot or cold packs. Packs are also administered to a large percentage of patients suffering from the various psychoses where the reactive capacity is up to the standard. The shower and spray is used with all forms of treatment; it follows packs, hot air baths, sitz baths, etc., and it is given as an independent treatment in feeble and emaciated conditions. Hot air baths are used for various toxic conditions, drug, alcoholism, etc.; sitz baths for patients suffering from chronic constipation and pelvic disorders; and the spinal or Scotch douche in neurasthenics, hysterical conditions, etc.

Continuous Baths.—The continuous baths are the treatment par excellence for all cases of mental disorders. They have been used in this country for the past ten or twelve years, but have been in existence in Germany for at least a quarter of a century, being introduced by Kraepelin and others. To quote from Kraepelin, "it has been proved by experience that the treatment of excited patients in the continuous bath possesses advantages over all other treatments."

Busch and Ply have shown by experiments that the continuous bath produces quiet and not fatigue. Epstein recognizes the excellence of the continuous bath in the excitements of dementia precox and other conditions, in the excitements of general paresis, as well as for arteriosclerosis and senile forms. A bath tub especially adapted for use with a constant inflow and outflow of water, regulated by a control table, and in which the patient may be suspended in a hammock in the water, is necessary for the successful continuous bath, the head being well supported above water by an air pillow. All restraint or influence of this nature should be avoided in continuous baths; it is not advisable to even throw a sheet across the tub, but let the patients follow their inclinations—wander at will about the room. If they get out of the tub, they usually return to the bath after a chilly sensation is experienced from leaving the warm water. The duration of these baths depends to some degree on the patient's mental condition at the time. Sometimes one or two hours in the bath will relieve distressing symptoms, and, again, it will require hours or even days to subdue an excitement. The temperature of the water should at no time exceed 100° F., although it is advisable, where it is possible to do so, to vary the temperature of the water between 95° and 98° F. Our bath mistress is always instructed under no conditions to allow the water to rise above 98° F. However, with the greatest precautions sometimes in a large institution, where there is such an irregular demand on the hot water supply, the temperature of the water may rise to 100° F. or more. It is in these conditions that a serious depression or collapse may ensue.

We obtain excellent results from the association of prolonged baths with repose in bed for the treatment of excited cases. In the general treatment the procedure is as follows: the patient remains in the bath during the period of excitement, be it one or several hours, and at times the

bath is frequently extended throughout the day and occasionally into the night. As soon as quietness ensues she is placed in bed, where she stays as long as she remains quiet or until the return of the excitement. She is then placed again in the bath until the symptoms have disappeared. By this treatment we find complications are prevented, and the period of excitement is shortened and in many cases entirely suppressed; isolation and destruction to clothing and furniture are avoided and trauma lessened. This method is especially helpful in the treatment of agitated excitements, excitements of general paralysis, and the manic-depressive psychoses. We also make use of the continuous bath in cases of acute and chronic nephritis, skin diseases, furunculosis, burns, and decubitus in any part of the body. For the latter conditions this measure acts by the removal of all irritation to the cutaneous nerves and by protecting the surface of the body from atmospheric changes.

Cold Packs.—Next to the continuous baths, the cold pack is the most valuable remedy in cases of excitement. Its immediate effects are calming, and it is apparently the most practical method, as it is available at any and all times. It was one of the first methods employed when hydrotherapy was introduced into psychopathic hospitals, and has been able to maintain its place, and the writer believes its permanence has been established as the most useful of hydropathic measures. Though the continuous bath is superior in many respects, yet this latter method cannot be well carried out extensively in large institutions for reasons above noted. It is not feasible to supply all departments of a hospital with the necessary appliances for an outfit of this sort owing to the great expense connected with it, and the pack is the best substitute. Then, again, packs need not necessarily be limited to the hospital wards; they can be given by well-trained nurses in any department where indicated. While at first it may be necessary in confused and excited states to apply them by compulsion, after the first one is given there is seldom any difficulty in administering the second. In excited cases these treatments should be administered for from forty-five to sixty minutes, and may be renewed three or four times daily. In this hospital patients are sometimes packed before breakfast, before the hydriatic department has opened for the day; the patient is again treated in the douche room during the morning hours; after her return to the ward, if she is very restless, she is again packed. These cases are often given a pack at bedtime, and it performs wonders during the night if a patient is restless or becomes excited. The limitation of the movements of a patient who is restless when placed in the pack, together with the sedative effect of the pack, are beneficial and act as a hypnotic.

In administering the cold pack the tap water is used at about 60° or 70° F., although in summer time, to regulate the temperature, frequently a piece of ice is added to the water. The method is as follows: on a rubber sheet placed on a bed or table especially made for these treatments two or more blankets are placed; two sheets wrung out of cold water are then placed upon these blankets. The patient, with outstretched arms, is placed thereon, her body in the middle and her feet about six inches from the lower part of the sheet or hem. The arms are well raised and the trunk is then wrapped in the wet sheets. The sheet is passed between the legs and thighs of the patient to prevent surfaces of the body coming in contact with each other. The arms are then brought down and the second sheet brought over them, tucking the feet and neck well in, thus enveloping the whole body in a wet cover. The blankets are then drawn firmly around the patient and tucked in well at the sides, neck, and feet, and the last one is folded and brought underneath the patient. Great care should be taken to have the sheets fit closely at the neck to prevent the ingress of air. A cold, wet towel is then applied to the head. A patient should never be placed in a pack with cold feet, as it will delay or prevent a reaction. If the feet are cold, they should be first warmed. This can be done by means of a hot foot bath for a few minutes before the patient is placed in the pack. The writer does not approve of the method advised of late by some therapeutists of exposing the feet while in the pack and applying the hot water bottle to them. This in her experience retards the reaction.

The duration of the pack depends to some degree on the condition of the patient. As a rule, we prescribe a pack of forty-five to sixty minutes' duration, although during the summer months in this climate the packs are sometimes limited to thirty minutes. As soon as the patient comes in contact with the cold sheet which serves to envelop her she experiences a mild shock, which lasts from five to fifteen minutes. At this time heat from the body accumulates between the wet sheet and the skin without being able to escape and radiate from the surface. The animal heat, for the moment lowered, now increases, circulation is exhilarated, there is a hyperactivity of the whole cutaneous circulation, glands of the skin respond, and the body is covered with a profuse perspiration, and toxins are eliminated. In the calm which follows the patient, as a rule, sleeps.

After the pack she is placed under the needle and shower at a temperature of 100° to 110° F. for one minute, then 70° F. for ten seconds, rubbed, dried, and dressed.

Although packs of several hours' duration are recommended by some physicians, the writer cannot, from her experience, under the conditions prevailing in large institutions, advocate them. For separate cases, where the physician can give his personal attention to the procedure, they may be successfully carried out, but experience shows that there is danger of collapse in some cases where the responsibility of a prolonged pack is transferred to a nurse who has an inadequate knowledge of the physiologic conditions involved. The collapse in the pack is due to a failure to react. The absence of these signs of reaction, and especially the presence of a sense of dullness following a general cold application, constitutes a failure of the organism to respond to temperature changes.

Our bath mistress and nurses are instructed when using the cold packs to watch for the reaction and, especially when treating the patient for the first time, to frequently pass her hand between the covering and the patient's body, and after a period of ten or fifteen minutes, if the body is not warm, to immediately remove her from the pack and place her under the warm shower and needle.

Hot Packs.—The procedure of the hot blanket pack is very similar to the cold pack. Three or four blankets are placed on a bed or pack table, and one blanket, having been quickly wrung out of hot water, is folded and laid on these several blankets. The patient is placed on the hot blanket and it is snugly wrapped around her to retain as much heat as possible; the other blankets are quickly rolled around the patient and folded underneath her, and the hot water bottle is placed at her feet. After a patient is taken from a cold pack, the sheets are warm, but after the hot pack the blankets are cool, showing a lessened heat production.

Hot Air Baths.—These are one of the most important features of the hydropathic department, being valuable as an eliminative agent. They may be used as an independent procedure, followed by the shower and spray, or in conjunction with other forms of hydrotherapeutic treatment, although all patients have not the physical endurance for such heroic measures. The patient is placed in the hot air cabinet, with a towel wrung out of ice water about the neck, and she is kept in it until a reaction is established or until she begins to perspire. She is frequently given cold water to drink during the procedure, as there is an excessive loss of fluid. When perspiration sets in, there is frequently a sensation of nausea or faintness, which one must be prepared for, as it may sometimes be a danger signal. This bath may be usefully employed in alcoholic and drug cases, also in toxic conditions from acute renal diseases, etc.

Sitz Bath and Perineal Douche.—This is a means of applying water to the pelvis and lower abdomen as far as the umbilicus. The patient is seated in a special tub, with the lower part of the trunk immersed, and the feet in a foot bath. It is a means of influencing the circulation of the large blood vessels in this portion of the body. This treatment is very useful in disorders of the abdomen and the pelvic organs, including hemorrhoids. Warm or hot sitz baths of fifteen to twenty minutes are very effective in chronic constipation, the patient massaging the abdomen while in the bath. The temperature of the water may be increased or diminished as indicated. Other therapeutic indications for use of sitz baths are the various menstrual disorders, irritation of the bladder, affections of the vulva, etc.

One of the most popular modes of treatment which is administered in this hospital is the needle shower and spray, which every patient receives either as an independent prescription or in combination with other forms. It is a method by which temperature, force, or pressure is applied to various parts of the body, being always used after the pack, the hot air bath, the sitz bath, and the other hydrotherapeutic measures. Brief applications of cold and hot water delivered under high pressure or by good mechanical rotation are beneficial in all cases, even in anemic cases where the resistance is low and the patient is in feeble physical health. Needle douches do not abstract the heat, but, by the force of the water, they bring on a reaction and cause the superficial blood vessels to dilate. In order to demonstrate the douche method properly, it is advisable to have a water regulator which permits the bath mistress to change rapidly the temperature as well as the pressure.

The needle douche should be regulated so that it will spray equally over the whole expanse of the cutaneous surface, and so that the temperature can be rapidly changed. The force of this douche should be extremely gentle at first—about ten, or, at the most, 15 pounds pressure, which can later be increased to 30 or even more—so that the patient may be protected from shock. The duration of the douche, needle, and spray will always depend on the endurance of the patient, and, as a rule, varies from one to three minutes. It is not necessary to prolong it indefinitely to obtain a

very sedative action. Experience has shown that a douche of from two to three minutes nearly always produces the calming effect desired. In the writer's opinion it is useless to continue it longer, and in exceeding this limit which she has indicated one runs the risk of fatiguing the patient instead of calming her. It is better to give two well-regulated douches a day than to administer a single one of too long duration. These treatments are renewed every day, and when the patient shows a certain tolerance for the cold the temperature is gradually lowered and the pressure increased. To produce the calming effect and to improve the general tonicity, the spray baths should be continued over a considerable period of time. Often the temperature douche alone is sufficient to produce results without any accessory treatment.

In neurasthenic and hysterical conditions sometimes the Scotch douche has a beneficial influence. The Scotch douche is applied by a forcible jet or stream of water, which may also be applied in the shape of a fan, driven with a certain regulated force against the spinal column and rapidly passed up and down the back. The pressure in this procedure varies; it is well to begin at 10 or 15 pounds pressure, and this can be gradually increased, as the endurance of the patient improves, to 30 or 35 pounds. The temperature can also be gradually changed according to the prescription.

Summary.—There is no doubt that cold applications to a large portion of the body reduce the surface temperature and increase the amount of blood to the internal organs, and, if a prompt return of the blood to the periphery is not established, a dangerous congestion may result. One patient is benefited by numerous cold applications, another is injured by the cold water—as the physician learns, not from the word of the patient, but from his own observations—yet this same patient receives good results from the warm water. If an attempt is made to establish as a standard and rule those proceedings which have been useful at one time, it not infrequently happens that one is disillusioned by later experience. The necessity to adapt the temperature, duration, pressure, etc., to the physical strength and endurance of the patient must always be kept in mind. As a general rule, asthenic individuals and those suffering from arteriosclerosis should not be subjected to cold packs. It throws too much work on the inelastic blood vessels. Nor should we apply general cold applications in states of exhaustion, collapse, during a chill, nor should anemic or emaciated patients be given treatments that abstract too much heat from the tissues. The use of the hot pack as well as the cold has its limitations. It is for the young, the aged or weak, the anemic and emaciated patients that we use the hot packs. In many cases of senile weakness, when the indications are for mild tonic and sedative effects, the hot pack may be beneficial, as well as in psychoses associated with acute nephritis, in cases of confusion as well as in active delirious states, as delirium tremens. In any of these cases, where the reactive capacity is weak, the hot pack may be used, but great care must be taken to establish the reaction.

INDIVIDUALIZATION.

Individualization is the primary factor in all water treatment. If that is taken into consideration, the advantages resulting from hydrotherapy are so eminent that they outweigh all incidental unpleasantness. In prescribing hydrotherapy it is indispensable to specify the procedures to be followed in regard to temperature, duration, and pressure. It should always be kept in mind that each form of hydropathy is a therapeutic measure for a purpose, and each has its definite reaction on the tissues, so we should use the same precautions and precision in administering it that we use in the most delicate medicinal agent. In prescribing a drug we state the exact dosage, the time, and the frequency, and this same plan should be adopted in prescribing hydrotherapy. The object of the prescription is to secure the greatest degree of stimulation, and we must, therefore, proportion temperature and duration and force of the bath to the patient's strength, our aim being always to secure a continuous vigor as long as possible. The patient should leave the bath at the climax of exhilaration and stimulation; therefore, before any hydrotherapy is prescribed a thorough physical examination should be made and a knowledge of the clinical history of the patient should be secured, so that the physician will have an exact knowledge of any deviation from the normal in the patient's organs and their functions in addition to his knowledge of the physiologic effects of the application and familiarity with the technic of operation of the appliances. It should always be borne in mind that all patients should first be treated with mild procedures, and the duration, temperature, and force increased or diminished as indicated when the patient becomes able to undergo the severer treatments.

From the fact mentioned above that all patients are expected to take the treatment from the time of their reception in the hospital, we have not met with the unfavorable comments concerning the treatments on the part of patients noted by some physicians. In fact, the baths are, as a rule, so favorably received by our patients that it is

impossible for us to meet the demands of those who return for treatment after they have been discharged. We have so many requests of this nature that we are compelled to limit the number of those returning to a very few exceptional cases. Only patients suffering from the periodic psychoses are granted this privilege, as all of our departments are worked daily to their fullest capacity. Among those who come back for treatment the writer has in mind two who suffer from manic-depressive excitements, and who have returned for years during their lucid intervals for cold packs when they felt the need of them. One of them has been in this hospital on seven and the other on twelve different commitments. Both of these women are privileged to return at any time they feel the need of water treatment. They are given cold packs forty-five to sixty minutes, followed by shower and spray at 110° F. for two minutes, and 30 to 35 pounds pressure and 70° F. for ten seconds. In the intervals between attacks these patients will appear for several weeks at a time and then discontinue of their own volition. The onset of their excitement is always preceded by the return of these patients for at least a week or ten days. Both women are of a fairly intelligent type, and they are firmly convinced that they have interrupted or delayed attacks by regularly taking the baths. Those women never object to the packs when they are in the hospital under treatment, but always express approval and relief from them.

The personal experience of patients in regard to hydrotherapy is interestingly described in a paper on Auto-Psychology of Manic-Depressive Psychosis by Reid and which is related as follows: "One of our patients, an intelligent graduate nurse, who was at one time assistant superintendent in one of the local city hospitals, and suffering from an unparalleled case of excitement of a manic-depressive type, recounted her experiences on her recovery as follows: 'Hydrotherapy worked wonders. What I enjoyed most was the shower and spray; it was invigorating and refreshing, and seemed to give me a new lease on life. The packs I disliked at first; the restraint of the blankets around me was maddening; it seemed like a dare, and on several occasions I wriggled myself loose and escaped. After I became accustomed to them, however, they were soothing, and I frequently slept while being treated in this manner. The continuous bath was restful and quieting. My circulation was poor, and I suffered from cold even in the warmest weather. The continuous bath appeared to restore the circulation, and the warmth was grateful and soothing. The sheet thrown over me in the tub was irritating and worried me constantly; I wanted to be free to splash around as I pleased.'"

To quote further from the same article: "In one of our wards at the present time is a woman who for many years has been treated for recurrent attacks of mania. For certain reasons it is necessary to keep her in a chronic ward at some distance from the hydrotherapy room. When her excitement becomes so intense that it is impossible to bring her to the hydrotherapy room for treatment, she asks permission to sit under the shower bath for two hours daily. Notwithstanding the fact that her excitement and confusion become so great as to render her almost incapable of performing a rational act or uttering a coherent sentence, she makes her way to the bath room and takes her treatment with great regularity. A retired army major who has recently recovered from an attack of mania told me that he had tried all possible combinations of the water treatment, and had worked out for himself quite an elaborate programme, which he found of great benefit in lessening his excitement. This consisted in taking the hot box for fifteen minutes, cold pack for one hour, hot needle bath, followed by cold shower and Scotch douche. He also found that sleep could be induced during his periods of greatest excitement by the use of a continuous bath at 99° F. for one hour."

DISCUSSION OF CRITICISMS.

The theory has been advanced that the good results in hydrotherapy are due solely to the suggestive elements involved. Of course, in the hydrotherapeutic cure, as in every other therapy, suggestion plays a part, but the writer does not agree that suggestion is the only deciding factor. As a proof to the contrary, it may be stated that it is not at all a matter of indifference what hydrotherapeutic method is used in the treatment of the insane. One may even injure the patient instead of benefiting him by the improper use of hydrotherapy, which would scarcely be the case if it were indifferent in what form the water is applied. And, too, we are now in a position to understand physiologic and therapeutic effects of water, so that we are able to explain to the patient the manner in which the effects are produced in so far as it is possible to explain effects in functional affections, and in many of the cases this explanation has a beneficial result. The patient feels that something is being done for her, and the fact that all patients expect and receive some form of hydrotherapy as soon as they enter the hospital inclines them to regard it as curative, and, if we accomplish our aim in restoring the patient to health, is it not the same, whether the restoration is in part brought about by sugges-

tion? But by hydropathic treatment we are able, in addition, to produce a series of somatic improvements.

The writer may guard against the objection which she has heard occasionally advanced by members of the medical profession that a pack is nothing more than a modernized straight jacket. This is not so, as the straight jacket is merely a coercive measure and has no sedative effect or therapeutic value whatever, and the packs are never used as a coercive proceeding; they have a permanent calming influence, and they are felt by the most excitable cases to be sedative and to have a curative effect besides. The patients are never packed and placed in isolation, but are where they can be seen by all the other patients, and many of them prefer the packs to any other treatment. The pack is even subjectively found to be pleasant. The writer can confirm this from personal trial.

When all is said, however, hydrotherapy is not advanced as a specific remedy, but is a method of treatment which aids in sustaining the failing functions and in preventing vital complications in mental diseases. It promotes nutrition and tissue change, the main therapeutic aim in all disease. Yet these good results can be obtained only in combination with other curative factors, such as diet, fresh air, regular habits of life, etc.

The continuance and permanence of the present movement will depend partly on its intrinsic value as verified by careful observers, but perhaps quite as much on the accuracy with which it is prescribed and employed by those who use it. Each one must require for himself a knowledge of the proper use of water, which must include its physiologic and therapeutic action, and without that he employs it empirically, making no particular selection for the patient or adaptation of the procedure employed to the individual. An attempt should be made to make those combinations of the various forms of baths given which would be most beneficial for the individual patient.

To remove the prejudice which exists in the minds today of a large percentage of the medical profession and to prepare the medical student of the future to utilize one of the most important medicinal remedies which is available in the humblest home as well as in the mansion of the rich, we must establish classes of hydrotherapy in our medical colleges and the study of hydrotherapy must be made obligatory.

CONCLUSIONS.

In conclusion, the results of psychiatric hydrotherapy may be summed up as follows:

First, the more careful clinical study of our patients is made possible by the constant vigilance required in the water treatment, and with these careful observations the intervening variations in the course of the psychoses do not pass unnoticed, the varied symptoms being given attention from their onset.

Second, without a doubt the painful symptoms of the acute stages are reduced and many complications are avoided; notably the period of excitement is shortened and its intensity diminished, and in many cases entirely suppressed.

Third, isolation is obviated, destruction of clothing and furniture is avoided, and the use of hypnotics is dispensed with; traumatism, so frequent in such cases of excitement, is prevented.

Fourth, the number of cases which pass from the acute state to the chronic is diminished, and the number remaining in the hospital is lessened and the number released is increased.

Fifth, the general somatic condition of the patient is benefited, they all gain in weight, and anemia is overcome.

Sixth, desocializing and demoralizing effects are diminished; there is greater quietness and better discipline in the hospital where the baths are employed, and the contagion of excitements is obviated.

Infections in Books and Magazines.

Stationary receptacles have been placed at the railway stations in New Orleans in which books and magazines may be deposited for the benefit of patients in the Charity Hospital. The New Orleans folks are delighted that a way has been found by which old magazines may be made to serve a good purpose.

Of course this is no new plan. It is being carried out in a number of places, and has been discarded in many more because of the ease by which communicable diseases may be brought to sick people, already low in physical resistance and ready to pick up any infection that happens to come into the neighborhood.

It is becoming the custom of railway corporations to operate their hospitals through boards of trustees made up of representatives of the management and of the various services of employees. The latest road to develop this method of operation is the Missouri, Kansas, and Texas. Two hospital corporations have been formed—one for Missouri and one for Texas. The two boards have seven trustees composed as follows: general manager, general counsel, general superintendent, and one employee from the trainmen, engineers, yardmen, officemen, stationmen, and one from the maintenance-of-way service. The hospital fund has a surplus of $100,000, which will be divided between the two hospitals, one of which will be located at Sedalia, Mo., and the other at some Texas point to be chosen.

Dr. Wayne Smith, for the past two years superintendent of the St. Louis City Hospital, has resigned to become general manager of the Harper Hospital, Detroit. Mr. F. E. Moulder, for the past ten years superintendent, has been compelled to resign on account of illness. Mr. Moulder has bought a farm and will live the simple life.

THE PLACE OF SOCIAL SERVICE IN A MEDICAL INSTITUTION.[1]

Prevention of Sickness by Social Service Is Better Than Cure of Disease—Is Good Business as Well as Good Philanthropy.

By A. R. WARNER, M. D.

ASSISTANT SUPERINTENDENT LAKESIDE HOSPITAL, CLEVELAND.

THE work which we now call "social service work" in a medical institution is old, in reality as old as our medical charities—it is the way of working the larger field that is new. Last year at Detroit Dr. Goldwater told us about the records of organized social work for the patients in the Paris hospitals dating back to the sixteenth century and of other work almost as old. American hospitals located in larger cities without at least a committee of women to visit the sick and care for the wants that were not medical have been few, indeed, since this country has had cities, but the rapid growth in the population, with the increasing tendency toward congestion into larger cities, the changed economic conditions, and the problem arising from greater immigration made the old way to help inadequate, inefficient. The voluntary services of a few ladies, however sincere and energetic, could neither meet the needs found nor properly survey the wants of the polyglot army seeking medical charity. A new way to work became a necessity.

This new and better way, first organized in this city, is the subject of this paper. It came from the vision and the appeal of one physician, now honored throughout this land as the instigator and the founder of a nation-wide movement which has made society kinder to the unfortunates and the world better. This new social service department, as it was called—this stronger, more efficient visiting and relief committee—was affiliated with the Massachusetts General Hospital. The arguments and pleas of Dr. Cabot have, however, carried the conviction generally that the responsibility to look for the need of more than medicine and to act on all the findings rests directly on any institution undertaking the care of a patient. The more recent social service departments have, therefore, been established by the institutions and supported directly or indirectly from their resources.

The place of a social service department in a medical institution is where it can best meet this direct responsibility and where it can best perform its investigating and relief functions. In a hospital or dispensary, as generally organized today under a superintendent representing a board of trustees, and acting as the established common point for the correlation of the varied activities and functions, the best place for the social service department seems to be squarely by the side of the other departments in the hospital organization. Here only can direct responsibility for this work be properly assumed, here only can the work be done in absolute harmony with all the rest of the institution, and here only can fitting recognition be given a work that has become a profession. It is as truly hospital work as any, and is sufficiently different from any other work to make a separate department advisable. At the head of this social service department there should be an expert and professional social worker, the best the institution can get. The titles and terms of service are immaterial, but it must be a person capable of directing the social work as the nursing head, or the chief engineer, or the chief of a staff directs the department. The organization of the department under this directing head is beyond the scope of this paper, but, if there be the proper relationship between a competent department head and the superintendent, the department will soon have the personnel and the equipment to keep its work on a level with the general work of the institution.

The relation of the social service department to the other departments should be that of mutual helpfulness. The value of social work to medical work, as well as the value of medical work to social work, is now beyond question. The hospital has definitely committed itself to assist its accepted wards in many ways instead of one; it matters not the station of the worker, for these wards and their welfare is the common end of all.

In the relation of the social service department to the superintendent and to the hospital there should be the usual institutional harmony and a recognition of the superintendent as the representative of the trustees and of the institution, itself a charity, which in turn represents a specialization in society's efforts to better itself. The basic aim and purpose of all departments of the hospital is to further this same effort, each in its own way. Absolute loyalty to the interests of the hospital are as essential in this department as in any position in the institution.

[1]Paper read before the American Hospital Association at Boston, August, 1913.

All of the work of the hospital primarily social properly comes to this department. In addition to the recognized field for the betterment of the patients and their families, there are the social investigations to determine how much, if any, a doubtful applicant can and should pay for the services to be given him. If the customs and conscience of all communities in dealing with hospitals are the same as in Cleveland, the cash return to the hospital from the abuse prevented will pay to any institution doubly the cost of this home investigating. There is, besides, no small degree of philanthropy and social betterment accomplished by preventing a man from first securing unwise charity, even though this be accompanied with some unpleasantness. There is also the social work for the hospital employees to be done. Commercial plants employing no more people find it profitable to provide a social worker to help their employees when unfortunate. Therefore, what reason can there be in not doing this work when the institution already has the department and workers at hand. In general, the social service department should assume all the social problems of the hospital as the engineers assume the mechanical or the staff the medical, and should cheerfully permit its results to be blended with the work of the others to increase the institution's usefulness to society.

The relation of the superintendent to the social service department is a proper point to discuss here. In the text-book, "The Modern Hospital," by Hornsby and Schmidt, the first paragraph of the chapter on the superintendent is as follows: "The superintendent of the hospital is the executive officer of the board of directors—the general manager of the corporation. Standards of hospital administration have been practically revolutionized within the past five or ten years, and the standards of hospital managers have changed within the same time. The man or woman who was a competent hospital director a few years ago may be to-day so far behind the times that the whole institution is out of date." On the general manager, as Dr. Hornsby calls him, depends much of the effectiveness of the work, as well as the working efficiency of any corporation. The position is indeed a trust. Hospitals are medical institutions organized to do for the masses what the physician does for his individual patient, and the vision of the progressive hospital has followed the leaders of the profession from therapy to prophylaxis. But medical prophylaxis for the mass and for the community is sociology—applied, active, practical. In other words, the most marked recent changes in the purpose and the work of hospitals are, first, the development of more cooperation with other organizations to develop greater sociologic efficiency, and, second, a greater effort to render real service to its wards as men and women, who lived some way before they were admitted and who must live somehow after their discharge, and to do this without losing one iota of scientific progressiveness or teaching proficiency. The successful manager of such an institution must have an interest in and knowledge of public health and welfare, of social and economic conditions, and must cherish a determination that society shall gain, not lose, because a charitable institution is intrusted to his management. The results of good business are dollars; scientific research, facts; and wise charity, social betterments. There should be the element of charity in every hospital, and the manager must produce the results. The superintendent should, therefore, be a leader, a supporter, and a fellow-worker in social service. We have heard hospital superintendents characterized as good housekeepers, good innkeepers, good accountants, good specialists in some branch of medicine. It is high time we heard, occasionally at least, of hospital superintendents that are good social workers, good sociologists. To the business, mechanical, and medical qualifications required in the hospital manager to-day, to-morrow will add one more and that will be sociologic, and then the relation of the hospital superintendent to the social department will be the same as to the business, to the mechanical, or to the medical departments.

The cost of social service, as of any charity. is complicated, for the results are not all measurable in dollars, and it is not possible to reduce social results to a common basis even for comparison. It is also wrong to look only at the gross cost, for one dollar counts as another in the expense column, though the one be wasted and the other enable a man to meet misfortune and survive with self-respect and the spirit of manhood unbroken. Again, a dollar saved is a dollar earned. If the social service department saves the hospital a dollar, why should it not be credited to the department, figuratively at least, to reduce the effect of the "extra expense of social service," as it is sometimes called? The social work for the hospital employees and the social investigation of applicants for admission always bring a profit to the hospital—the one in greater working efficiency and the other in cash. There is another kind of saving, however, that counts for more than these. The best story at hand to illustrate this is, by chance, local. It is best because the data was worked out best, and not because there is anything unusual or uncommon in the facts. As a story to illustrate the weakness of dispensary

treatment, it would be commonplace indeed. Some of you, at least, have heard Miss Cannon's story about the family with scabies. This family consisted of father, mother, and nine children. The long records of every member, all for the same trouble, were noted and investigated. Miss Cannon found that they had come to the dispensary three years before. The total number of dispensary visits were one hundred and ten, which, figured at the per-capita cost, amounted to $52.65; free prescriptions were given them costing $23.70; and they were treated in the hospital wards seventy-one days, costing $178.92, making a total of $255.27. Over three years of treatment, costing this amount of money, had failed. After a few visits of the social worker to this home, costing but a few dollars, the family had learned enough hygiene to bring a prompt and permanent cure under the same medication. Were these few dollars an extra expense, or did it save the cost of more unsuccessful dispensary treatment and become an investment that returned a profit of some hundreds percent in cash besides the service rendered the family. I have seen social service work for dispensary patients unquestionably prevent a second break in heart compensation. If the break had come, this patient would have been returned promptly to the ward. Is the social service in such cases an extra expense, or is it a way to save the cost of some weeks of hospital care at the usual figure? And above the dollars there is a higher plane—it is better charity to keep a man out of a hospital bed than to care for him after he is in one. There is something wrong with the social service department that cannot add to the efficiency of any institution sufficiently to enable it to accomplish the same amount of good in the community at an equal or a decreased cost. Added to a given institution, the department will widen its influence and strengthen its work far beyond the ratio of the extra expense.

The gross cost of a social service department is about $1,200 a year for each worker, including incidental expenses, a room or desk room, and a little fund for loan and emergency relief, which can be raised easier than money for any other use in the hospital. Then, why should any hospital be without such a department?

I am assured that the New York City Committee on Hospital Inquiry, a lay committee, seeking only to promote economy and efficiency in the care of the municipal poor, will report that social service in the cities' hospitals and dispensaries is a "necessity because it increases the effectiveness of the medical relief," because "it safeguards the community and promotes social efficiency," and that it "is therefore a legitimate part of the municipal expenditure."

Not long since the presence of x-ray equipment marked hospitals as good, and then the absence of such equipment branded them as bad. The history of hospital social service will soon have been the same.

FILING OF X-RAY PLATES.

Convenient Method of Arranging Fluoroscopic and Plate Data for Permanent Record.

By JAMES T. CASE, M. D.

RÖNTGENOLOGIST TO THE BATTLE CREEK SANITARIUM, BATTLE CREEK, MICH., AND TO ST. LUKE'S HOSPITAL, CHICAGO; LECTURER IN RÖNTGENOLOGY, NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.

EVERY well-ordered medical institution is nowadays equipped with a more or less adequate röntgen examining department. While as yet, in this country at least, the value of the fluorescent screen method of examination is little appreciated, the röntgenographic or "plate" method has reached such refinements that it may be considered almost perfect. It is safe to say that American röntgenography is fully abreast of the European standards, but in röntgenoscopy we, as a nation, are still far in the rear. Here and there are a few American röntgenologists who have appreciated the fluoroscopic method, and have perfected safe and sane instruments which may be used without fear of serious injury to the operator.

Even these men, however, have not adopted fluoroscopy to the exclusion of röntgenography, but still consider the plate evidence of value under certain circumstances and make a few röntgenograms in connection with every case fluoroscoped as a matter of confirmation or permanent record of interesting conditions.

Since plates will be made and are made for record more often than for diagnosis, at least in the study of the thorax and abdomen, an adequate system of filing must be installed in connection with every x-ray examining department. The writer's connection with an institution handling a large number of patients daily has afforded abundant opportunity to work out a system possessed of such elasticity that it may be used for

an institution of any size, great or small. A description of this system of filing, now used both at the Battle Creek (Michigan) Sanitarium and at St. Luke's Hospital (Chicago), may be profitable in this connection.

A supply of paper slips, preferably made up in pads, are carefully numbered consecutively with a numbering machine. This pad of numbered slips is kept at hand—best near the switchboard from which the x-ray exposures are made, so that the operator may at once make a written record of the exposure.

The exposed plate and the slip containing the number and the proper notation are carried to the developing room, and the plate at once removed from its holder and marked with the number and the name of the patient, or the slip is fastened to the plateholder, the marking of the plate being left until such time as it is removed from its container.

The marking is done in one corner of the plate with an indelible pencil. The plate may be developed at once or left in a light-proof container until a convenient time. The number slip containing the memoranda is placed upon a pick until the day's work is completed.

At a convenient hour the slips of the day are copied into a journal with enough ruled columns to tabulate the following data: date, plate number, name of patient, part, size and position of the plate, whether with or without reinforcing screen, the name of the physician or service, remarks, and lastly the date on which reported. The column of numbers may be printed in with a numbering machine—some thousands ahead if desirable. The slips, after being copied into the book, may be destroyed. A journal of the sort just described serves many useful purposes for future reference.

(EXAMINATION)

BATTLE CREEK SANITARIUM—Röntgen Ray Department.
J. T. CASE, M. D., Director.

Name..... *Address*.....

Date..... *Age*..... *Referred by Dr*..... *No.* .....

Fig. 1. Front side of index card. Size of card, 6x4 inches.

As each patient is received, the office nurse makes out an index record card (Figs. 1, 2), recording the name, date, age of patient, service or attending physician, and the aim of the examination; for instance, x-ray study of the chest for possible tuberculosis; x-ray study of the stomach for suspected ulcer; left hip for possible fracture; right leg for extent of injury, etc. It is helpful to the röntgenologist to know in which quarter trouble is suspected, and a brief statement as above suggested often saves much time and labor, to say nothing of expense to the institution.

191....	PART	No.	SIZE

Examiner.

Fig. 2. Reverse side of index card.

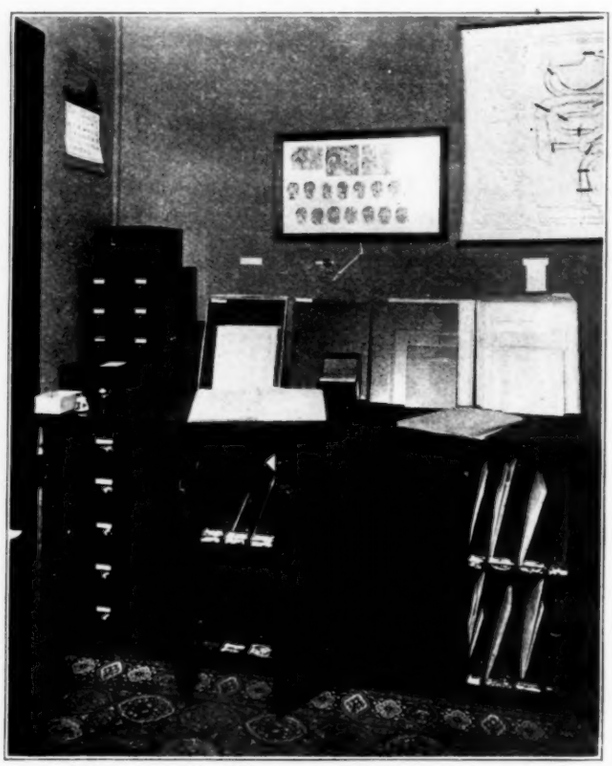


Fig. 3. Plate assembling cabinet. Each pigeon-hole is labeled for one or several patients, according to circumstances, and all plates are temporarily filed in these compartments as fast as they are labeled, pending completion of the examination, when the written report is made. The drawers at the left (below) serve for filing of tracings. The card files above contain the permanent record cards. The plates on the table in the right-hand pile have been reported on, and await filing in the permanent files. The plates in the center are being labeled and enveloped before going into the assemblage compartments. Those on the left are being kept out for special purposes.

On this index record card should be written also the number, size, and part röntgenographed of each plate made. This record may be made at the conclusion of the examination, during rela-

tively slack time, the journal serving for immediate reference in case of need.

The plates having been developed and dried, they are now brought to the desk for assemblage. The writer has constructed a special desk for this purpose, as illustrated in Fig. 3. The plates are brought from the dark room and on this desk are labeled, placed in envelopes, marked with proper name and number, and temporarily placed in one of the compartments under the table until such time as the examination is completed and the written report can be made.

It is very convenient to have these compartments for temporary assemblage of plates. For instance, when Dr. J. comes into the office and says, "I know you are not yet through with the examination of Mrs. R., but the case is urgent and I would like to know something about her, whatever you can tell me," it is easy to go at once to the compartment set apart for Mrs. R.'s records and glance over whatever plates are completed at the moment. All tracings, memoranda, and information of whatever sort regarding each case should be placed at once in the "pigeon-hole" set aside for that patient.

The daily hour set apart for reporting having arrived, the examiner and his stenographer or clerk sit by a properly illuminated plate-study box or table (Fig. 4), and the plates of each completed

Fig. 4. A corner of the plate filing and study room, showing the stereoscope, the table with glass top for the study of smaller plates, the making of tracings, and the study of lantern slides. On the right-hand side is the plate assembling cabinet shown in Fig. 3.

case are carefully studied in connection with the case history and the memoranda which may have been dictated from time to time during the various fluoroscopic observations, provided the case has been one permitting fluoroscopic study. The report is then dictated, the tracings filed in their proper place for permanent keeping, and the plates are sorted out in piles of the same size, to be filed away in the permanent plate file. The report, preferably typewritten, made in duplicate, is sent out, one copy to be placed on the patient's record for the attending physician, the other to be filed in the x-ray office for future reference.

Fig. 5. A convenient cabinet for the filing of late plates. The smaller and less recent ones are filed higher up, the more recent plates on the lower shelves. The center of the cabinet is utilized for special study purposes, a few plates of striking interest being placed on permanent exhibition.

Permanent plate files are not necessarily finished pieces of furniture. Perhaps the more recent plates may be kept in a nicely finished cupboard, such as is shown in Fig. 5, but they will sooner or later be transferred to less valuable and more roomy quarters, where they are given a place in the shelves set apart for each individual size—14x17-inch plates in one shelf, 11x14-inch plates in another, 10x12-inch plates in another, and 8x10-inch plates in still another. The plates have all been numbered consecutively as they have been exposed, and may within a series of five numbers include five sizes of plates; hence it will be impracticable to file all the numbers consecutively, but each size should be filed in numerical order by itself. The 8x10 shelf may contain numbers 5071, 5074, 5077, 5078, 5083, etc. The 10x12 shelf may contain 5070, 5073, 5079, 5080, etc., and so on. By reference to the original card, then, for the plate number and size, it is easy to go to the file of that size and pick out the number.

It is the writer's custom to construct the plate files with shelves of two sizes. The lower tiers of shelves are 15 inches in height and 18 inches deep, and thus serve for 14x17- or 11x14-inch plates, as the need may develop. The upper tiers of shelving are 11 inches in height, and serve, as need arises, for either 8x10- or 10x12-inch plates.

The sticker labels for marking the plates should be of about the size and shape of the sample printed herewith:

THE BATTLE CREEK SANITARIUM.
J. T. CASE, M. D., RÖNTGENOLOGIST.
Plate No..... Date.....
Name.....

In addition to the data called for on the label, it is well to add "right" or "left," or, in the case of bismuth meal examinations, the number of hours since the meal was eaten.

Envelopes for permanent filing need not be expensive. The light-proof envelopes often sold along with the plates are too expensive for filing, and may be used over and over again in making exposures. Any cheap envelope a fourth of an inch larger than the size of the plate intended for it serves well enough for filing purposes. When two or more plates of the same size in the same case are consecutively numbered, they may be placed in the same envelope, but a sheet of cheap paper should be inserted between the film surfaces of the plates to prevent scratching. Stereoscopic plates should always be filed in pairs. The paper for insertion between plates can be bought from any printing house at a nominal price, cut in proper sizes from spoiled stock.

Some recommend the use of lead numbers or "x-ray ink" markings on the plates, but in the writer's experience they are too cumbersome and the method is no less likely to permit error than the plan above described.

When making bilateral röntgenograms—as, for instance, both kidneys on one plate—a marker of some sort is desirable to identify the right or left side, but in any positive case a duplicate plate should be made for confirmation. A marker is especially desirable when films are used instead of glass plates.

A cross-record card is desirable in most medical institutions, not only for statistical and study purposes, but also as an aid in looking up special cases when the name of the patient may have been forgotten. A cross-record of this sort should be kept, not of the name of the patient, but of the part röntgenographed or according to the diagnosis, or preferably both. Any clerk may do this cross-record work from the data already in hand. At any time, then, it will be possible to ascertain quickly how many bismuth meal examinations have been made from one date to another date, or how many fractures of the femoral neck, or how many foreign bodies in the eye, etc. It may appear that the task of correctly numbering, filing, and indexing x-ray plates, to be properly done, requires considerable detail work, but it is essential for practical and useful record.

As the profession becomes more and more accustomed to the daily routine use of this wonderfully helpful diagnostic agent, and as the men who specialize in its use through increasing experience and accuracy gain more the confidence of the referring physicians, a change will be wrought in the attitude maintained toward x-ray work. The x-ray laboratory will be no longer considered a photographic gallery, presided over by a photographer, but rather a medical examining room where a physician skilled in the use of the x-ray secures added and special information to aid in the war against disease. The evidence thus afforded must be collated and checked up by (as well as serve to check up) the findings secured by other clinical means. An "x-ray" diagnosis will be a thing of the past. A "diagnosis" is the desideratum, and, to arrive at a correct diagnosis, we should take advantage of every available means, especially this new diagnostic agent of such promise. "Plates" will then be made less and less frequently. The fluoroscopic observation of the trained eye will bear more weight in contributing to the diagnosis. Less dependence will be placed on the photographic record of static conditions and more on written record made at the time of observation under most favorable circumstances for visualized palpation and manipulation impossible by any other method.

Fewer plates will be demanded. Less time will be consumed in the purely mechanical and laborious side of röntgenology, and more time left for the development of finer points of diagnosis.

Another triumph of American skill in hygiene and sanitation in tropical countries is chronicled in the recently published year book of the Philippine Bureau of Health. Director of Health Victor G. Heiser, who is also past assistant surgeon of the Public Health and Marine Hospital Service, sums up the situation in the Islands as follows: "On account of the state of the public health at the close of the year, and the satisfactory conditions under which the new year is begun, it is believed to be safe to state that we are on the threshold of the time when the expectancy of life in the Philippines will compare favorably with that in other parts of the world, and that it will be safe for commercial enterprise to make its calculations for the future without fear that disastrous epidemics with their attendant quarantine and other restrictions must be reckoned with."

HOW THE SMALL HOSPITALS MAY BE MADE SELF-SUPPORTING.

Business Efficiency Quite as Necessary as in Other Business Offices—Charity Hospitals Should Not Take Pay Patients.

By G. W. OLSON,

SUPERINTENDENT OF THE SWEDISH HOSPITAL, MINNEAPOLIS.

IT is less than two years since the writer gave up a promising business career to take the superintendency of a hospital of which he had been trustee for a number of years. Some of his business friends merely smiled contemptuously; others expressed their scorn in rather strong language. They were unanimous in declaring their pity for a man who had so far lost his sense of self-preservation as to give up a vocation in which he could always feel assured of bread and butter for his family and himself "without the leave of any man," to take up a line of work which in the minds of many bright business men today is considered commercially unsound and is looked upon at best as a tolerable form of mendicancy.

The hospital business—not being a professional man, I am prone to look upon it as a business, and my subject further leads me to take this view of it—is not one that attracts capital, commands credit, or receives recognition in the commercial circles of the community. Why this is so, I cannot understand. It seems to me that the business of housing and providing for the wants of the sick is just as legitimate a business as that of housing and providing for the wants of the well, and should be regarded just as much a service to be paid for, if not more so. And yet it is a fact that, while a good hotel is looked upon as a good business investment for the owner, and its patrons cheerfully pay for its service a price calculated on a profit-making basis, a hospital, no matter how good, is classed as a poor business proposition, and its service, if paid for at all, is paid for grudgingly at a low rate and valued at less.

There must be some reason for this. Perhaps it is that people have been taught for ages that sickness is a form of punishment for sin; and people cling stubbornly to the notion that punishment should be inflicted at least without cash outlay to the recipient. No man pays a weekly rate in the house of correction, so why should he pay in the hospital? It must be largely on this theory that the governments of Europe and the municipalities of our own country are building gigantic establishments for the indiscriminate free care of the sick. People are learning to have little or no care about the days of sickness, which are almost certain to come in the lives of all humans. They are allowed to gain the impression that they may spend their money indiscriminately in the "pursuit of happiness," which in the modern interpretation means pleasures and incidentally impaired health and disease; they "should worry"—the state or municipality will take care of them free of charge when the inevitable day of illness arrives. Of course, this grace does not extend to the industrious taxpayer, who builds and maintains these free institutions. When he is sick, he must go to the voluntary hospital, where a charge is made for the service. Reflecting on this, it is not to be wondered at if he finds it galling when he is asked to pay for service which the thoughtless, the reckless, the thriftless, as well as also the luckless, have thrust upon them free of charge.

In seeking the reasons for the slight regard in which hospitals are held as business enterprises among business men and the public in general, is it not probable that one of them is the fact that so few hospitals are really self-supporting? Self-support is an important consideration in winning both self-respect and the respect of others.

Whether it is desirable or necessary that a hospital should be self-supporting is a question quite apart from my subject, and I shall not attempt to discuss it. Certain it is that in the case of the hospital founded mainly for scientific research and educational work it is impossible, no matter how desirable; and in the case of the state or municipal hospital and the heavily endowed charity hospital it is not necessary. But I take it for granted that to the great majority of the hospitals represented at this session for the smaller hospitals the question of sustenance is a vital one, and a condition of self-support both desirable and necessary. How, then, can this desirable condition be attained?

The wise doctor, who earnestly wishes to make his patient well, will first try to find out what made him unwell. So let us first try to learn *why* so many of the smaller hospitals are not self-supporting. I will name some of the causes as they appear to me:

1. The traditional unwillingness of the public,

[1]Read before the American Hospital Association at Boston, August 27, 1913.

already alluded to in the opening of this discourse, to pay for hospital service.

2. The severe and unfair competition of the hospitals maintained by public taxation and the charity hospitals maintained by private benevolence, which deliberately dispense service and supplies to pay patients at less than cost, and very often give free service to patients who can well afford to pay.

3. The doubtful good fortune, which befalls even many of the smaller hospitals, of being "born rich."

4. The vainglorious ambition which seizes so many hospital boards and building committees, like the young mother's fond ambitions for her first-born, to go far beyond their means in rearing and equipping their young progeny after the manner of the millionaires on yonder hill.

5. The altogether laudable and worthy aspirations of many small hospitals to achieve fame as philanthropic institutions.

6. Faulty organization, such as a too broad or too narrow charter or organic act, with unwise provisions as to board of managers, staff, authority and duties of the executive, etc.

7. Last, but not least, we have the failure of hospitals, individually and collectively, to give due attention to the development of the business side of hospital operation, particularly the *sources of revenue.*

Let us now briefly analyze the above causes and see what may be done to remove them or to remedy their effects.

1. The existing aversion to hospitals, and especially to the payment of hospital bills, is the result of inherent prejudice traceable to the days when hospitals and almshouses were inseparable. It is a condition which, fortunately, is fast disappearing as people are becoming better educated to the true function of the present-day hospital and the real value of its service. Our association can do much to further hasten the complete obliteration of this cause.

2. The second cause named—the abuses by the public of the charity hospitals—is one that concerns these institutions quite as much as it does us who represent the voluntary or semi-public hospitals. And it is a hopeful sign, which promises the early removal of this cause, that these hospitals are themselves taking up in earnest the matter of curbing the abuses to which they are being subjected. Let us hope that they will pursue their efforts to a successful conclusion. If they can then also be induced to adopt a scale of rates for their pay patients which will be commercially sound and just, we shall have little to complain of in the competition offered by these hospitals. Trustees of charity hospitals should wake up to the fact that it is a violation of the trust reposed in them—in fact, a misuse of trust funds—to dispense service and supplies at less than cost unless it be done for objects of charity. Taxpayers are waking up to face this question, and I think we may look for radical reforms soon in the methods of conducting the business of city and county hospitals, which at present are taking pay patients who can afford to pay all that the service costs, at rates which involve a mulcting of the public treasury in large amounts annually.

I cannot refrain from calling attention, in this connection, to an abuse which is practiced through the municipal hospitals in the large cities, and which is particularly injurious and unjust to the smaller hospitals. If you enter one of the large city hospitals and inquire into the matter, you will find that a very large percentage of its patients are there as a result of accidents of one kind or another. And if you inquire further into the history of individual cases, you will find that a great many of them are so-called liability cases —they have claims on somebody as a result of their injuries, and, if you probe deep enough, you are likely to find that their doctor is or will be paid by an insurance company or other corporation or individual for his services, and when the patient is out of the hospital he expects to recover, by suit or settlement, compensation for his injuries, sometimes in very large sums. Now, these cases are treated free by the hospital because the patient himself is often without visible means. The resulting saving of hospital expense to him invariably redounds to the advantage of the liability insurance company, which thus profits at the taxpayer's expense. My personal observations lead me to believe that this form of abuse of public hospitals is quite extensive. That it is grossly unjust to the smaller hospitals, who ought by every right to have this business at living rates, is apparent to everyone. The small hospitals located in cities where municipal hospitals are maintained should bestir themselves and vigilantly fight hospital abuses of all kinds, but this kind in particular. Let the taxpayer know what is being done with his money.

May we not hope that the hospitals maintained by public taxation will eventually go out of the pay-patient business altogether, and apply stringently the test of qualification to the charity patients admitted. Municipal hospitals are compulsory charity hospitals, and no one should be allowed to accept charity who is not in need of it. Otherwise sweet charity becomes a pauperizing factor in the community.

3. The third cause—that of being "born rich"

—is one that affects hospitals precisely as it does individuals. It is conducive to extravagance, looseness in business methods, and tends to produce a surfeit of eleemosynary effort that will make self-support in the leaner years which are likely to come doubly difficult.

4. Closely related to the foregoing, we find the fourth cause—the overreaching ambition of the builders. This is especially active where hospitals are started under the stress of great enthusiasm due either to joy over a sudden and unexpected bequest or a spasmodic outburst of local civic pride. The evil effects brought on by this not uncommon cause is evidenced in the many institutions which we find having a magnificent building and costly equipment far in excess of the needs of the community served, but with little or no commercial credit, and with both hands outstretched in solicitation of aid from kind-hearted people, that the institution may not be forced to close its doors. Many builders of small hospitals today are altogether too prone to pattern after the big, powerful, heavily endowed or publicly erected hospitals. It is evident from the experiences of many that, in order to insure self-support—or, in other words, to make the business pay—some sane proportion must exist between the capital put into the construction and equipment of the hospital and its earning capacity or number and class of beds. I believe that a good hospital can be built and equipped at a cost of from $1,000 to $1,500 per bed, and I believe, further, that just as good service can be given the patient in such a hospital as in some of those which are now being built with an expenditure of from $3,000 to $4,000 per bed.

5. The fifth cause named in the list of difficulties which beset the smaller hospitals is one which I fear I cannot discuss without revealing some of my own weaknesses. And if in discussing it frankly, as I must, I hold up a mirror in which we will see ourselves, some of us as we are and others perhaps distorted, I trust you will not take me too severely to account for the rudeness.

Most of us hospital executives are naturally tender-hearted and sympathetic. It is these qualities that have led us into the work; and it is these qualities, and not much else, which keep us in the work. We are natural-born philanthropists, most of us without the means, however, to exercise our natural bent, except in the matter of our time and our energies. We are generous to a fault; so generous that we will often give away even that which is not ours.

The fact of the matter is that most of us superintendents of small hospitals are a lot of "molly-coddles"—pardon the term—when it comes to differentiating between business and charity. So many of us have our wishbone located where our backbone ought to be. Maybe that is why we remain superintendents of small hospitals. We can look complacently while the doctor comes into our hospital and in an hour or less performs a service for which he receives as much as most of us receive for thirty days of hard work during twelve to eighteen hours of each day. And then we can listen to the complaints of the patient from whom the doctor extracted that fee of the terrible expense of a siege in the hospital, and, in our anxiety to please and our overwhelming pity for the sick and suffering, we refigure our bill down to the lowest possible point, leave out several items which we know the patient has received—and which we also know cost us money—and then discount the whole 10 to 25 percent; or perhaps we must wait for our money until the account is quite old, and then we gladly accept 50 percent in settlement. In the meantime our bills go right on piling up, and we tremble at the thought of what the surgeon, who can come into our hospital and make $500 in one morning, will say when he finds the supply of gauze curtailed because our last order is held up pending a payment on account.

Is this not the experience of many, and what lesson does it teach us? Sisters and brothers in a noble profession, we must be *just before we are gene ·u ;* just to our little institution, which is entitled to receive every dollar it earns; just to its sponsors, who should not be called on to contribute to its running expenses; just to its patients, who should not have a portion of charity thrust on them and still be allowed to believe that they have paid for everything received; just to our creditors; and, finally, just to ourselves and our subordinates in the matter of wages, working hours, and living accommodations.

6. The sixth reason assigned for the failure of hospitals to provide their own sustenance has to do with their organization and provisions for government. This is a factor of greater economic importance than is generally recognized. A hospital founded through the benefaction of one man or woman, with a small and exclusive self-perpetuating board of managers, can hardly hope to reach the point where its receipts from service and supplies sold will equal its expenditures. Any hospital founded on large benefactions and showered with gifts in the days of its beginning will find it exceedingly difficult to establish itself on a business basis. Too much will be expected and demanded from such a hospital in the way of free service, and the duty to render such service will always weigh heavily on the management of the

hospital, making it difficult to establish and enforce living rates. The community served by such a hospital, however, should be enlightened as to the fact that a money value must be placed on the free work, exactly the same as on the paid work, and that the most that can reasonably be expected from the institution in the way of free work is an amount equivalent to a commercial rate of interest on the capital represented by the hospital property, plus any moneys which may be derived from interest on endowments or from current donations. And the public should further understand that, in order to render such free service, the hospital must be allowed to collect for its paid service not only what that service actually costs, but a sufficient margin above that to meet the cost of the charity work.

A common type of hospital organization is the church hospital owned and governed by a church conference or synod. These hospitals are generally successful, if we may judge from the face of their financial reports. But, if we stop to analyze these reports, we will find in the case of many of them that the free work performed has not amounted to as much as the church collections and other gifts received, indicating that the paid work has been carried on at an actual loss and no interest whatever returned on the large capital placed in the hospital property. The writer has in mind one hospital of this type which possesses buildings and equipment costing over $200,000. The last annual statement of this hospital shows free work done to an amount approximately balancing the church collections and other gifts received for charity purposes. What has the $200,000 investment returned in this case? Certain it is that not many of the pay patients of this hospital—and it has a large number annually—will return thanks for the service which they received at less than cost, or congratulate themselves on their good fortune of having unknowingly been the objects of charity. Looking into the organization of this hospital, we find that it is governed by a board of sixty or more members elected by the church conference controlling it, and these members are scattered over a large section of country.

It is a common fault with church hospitals to have large and scattered boards, composed to a great extent of clergymen and laymen of very benevolent tendencies, whose influence is often used more to obtain for some friend and neighbor special favors and rates at the hospital than to help increase its revenues. It is better, however, to have the hospital governed by clergymen than by a coterie of doctors. No more hopeless situation can be pictured than a hospital, supposedly a general hospital, dominated by a clique of physicians, whether they constitute its board or its staff. Imagine a church or community hospital thus ruled, with its doors tightly closed against all doctors not in the sacred circle, and this same impregnable circle not assuming a particle of responsibility or the slightest care for the financial success or failure of the hospital. The great surgeon in the group goes south in winter and abroad in summer, and the great medicine man follows closely on his heels. Bright and industrious young doctors are thriving in your town, and they knock at your door for admission to their patients; but, no, the rules of your staff and the "ethics" of the institution must be observed; the cobwebs continue to grow in your doorways, and only the occasional calls of your patient creditors enliven your languid existence.

I am not prepared to prescribe the ideal form of organization. But I believe that the community hospital, born of a genuine community need, nurtured by a general community interest and supported by a loyal community patronage, when blessed with simple laws and wise management, comes very near being the ideal. To illustrate, let me tell you briefly the story of a remarkably successful hospital—the Swedish Hospital of Minneapolis, Minnesota. This hospital was started fifteen years ago in an old rented dwelling, furnished and equipped in the simplest manner to accommodate about 25 patients. Today this hospital occupies modern buildings, with a capacity of 125 beds, the net worth of its property above all indebtedness being in excess of $150,000. And this has been accomplished with less than $10,000 received in any other form than as payment for services rendered.

The organization of this hospital is exceedingly simple, and it is one that can be worked out successfully in any community. A few men—clergymen, doctors, and laymen—interested in founding a hospital, met and formed an association under the state laws governing corporations for benevolent purposes. It was provided in the charter that there should be no capital stock or shares; the corporation should consist of two classes of members—annual members paying $1 each year and having the right to vote for trustees or themselves become trustees, and life members paying $25 for the same privilege during their natural life and in addition being entitled to hospital care to the amount of $25 in case of need, without forfeiting any privilege of membership. By a later provision these life memberships have been made perpetual, so that a member may designate some person to succeed him on his death, subject to approval by the board of trustees, or, failing to make such

designation, the board may confer the vacant membership on any person whom they see fit. This insures absolutely the permanency of the membership, which at present numbers about 200. The hospital benefit conveyed by a life membership is, however, only available by the original holder personally, and on his death this liability on the hospital lapses. The constitution of the corporation provides for a board of trustees of twelve men, four of whom are elected each year at the annual meeting of the corporation and serve for three years. This board elects its own officers, meets regularly once a month, and has full authority to transact any and all business incident to the operation of the hospital. The board subdivides itself into committees, such as an executive committee, which is also the finance committee; a training school committee, which passes on all applications for admission to the training school; an auditing committee, which goes over the bills each month; a house committee, which makes periodical inspections of the hospital and dormitories; and a charity committee, which rules on all applications for free beds or aid from the hospital's charity fund. The board engages the superintendent, and clothes him with wide authority and corresponding responsibility in the conduct of the internal affairs of the hospital. All other employees are hired by him or on his recommendation, and he has full authority to dismiss any employee for cause which he deems sufficient. He makes all purchases necessary for the operation and maintenance of the hospital, and it is only when extensive improvements, building operations, or the purchase of real estate is concerned that the board assumes a part in the transaction. He is given full authority to use his own judgment and discretion in the admission of patients, in the permission of physicians not on the staff to introduce patients, in the application and enforcement of the rates and rules of the hospital, and in the collection of delinquent patients' accounts, or the settlement of any dispute arising in the ordinary course of business.

The staff of this hospital, consisting at the present time of twenty-eight active men, is appointed annually by the board. At the beginning of each year the list is gone over in executive session, and any staff member who has displayed disloyalty to the hospital or in any manner proven himself unworthy is dropped. It is needless to say that, under these conditions, staff men are as a rule very loyal. The board, through its superintendent, is absolutely the judge as to who may or may not treat patients in the hospital. Its doors are open to any reputable practitioner. Recently, however, it has been necessary, for lack of room, to confine admission to patients of staff members only. But, as soon as the needed additions can be built, the democratic character of the hospital will be restored, for its founders and sponsors believe firmly that the community is better served by an open hospital than by one conducted on the closed staff plan.

The Swedish Hospital form of organization is one that may be employed anywhere with better chances of success than any other plan of which I know. It permits everyone in the community who is at all interested in the work of building up a hospital to have a part in it, no matter what his social or financial station may be, so long as he is a person of good character. It is a mistake to think that only the rich can or ought to be interested in this work. The poor man has nothing but contempt for the enterprises, no matter how benevolent, which the rich man condescendingly establishes for him without his asking. Take the great mass of the people into your confidence, and, if your enterprise can be helped at all by public support, it will be a success. The religious interest need not be overlooked in the working out of this plan. Often it is the churches which take the initiative in a hospital campaign, and such was the case in the establishment of the Swedish Hospital. But there were people of several different denominations, as well as persons of no church affiliation. The provision was agreed upon that at least seven of the twelve men constituting the board of trustees must be members in good standing of some evangelical church of America, but not more than five may belong to the same denomination, insuring freedom from denominational control.

The Swedish Hospital plan of foundation for a hospital is conducive to self-support because it compels it. The campaign for members in the hospital corporation will, if successful, yield barely enough money to purchase the ground for a modest beginning. Funds for the erection of the building must be borrowed, and this requires the pledging of the individual credit of the trustees. The necessity for such credit compels the choice of responsible business men as trustees, men of a character that would insure success to any worthy enterprise.

7. But we have yet to consider the seventh, and most important, in our list of causes for the financial difficulties of the smaller hospitals. This is *the universal failure of hospitals to give due attention to the earning capacity or revenue sources of their business.*

The evolution of the hospital from the primitive "krankenhaus" of a century ago to the modern institution for the care of the sick is truly wonderful. Insofar as this progress has been made solely

with a view to the attainment of scientific results, or for the purpose of discharging most effectively organized society's obligation to its helpless wards, without the need of much thought as to the sources of revenue for its support, it has been perfect. But when those members of society who neither wished to submit themselves as subjects for study nor could qualify as paupers decided that they also wanted the advantages of hospital service, and in consequence hospital operation of necessity became more or less commercialized, the fleet steed of scientific progress was hitched with a horse of an exceedingly wary disposition. The economic problem at once assumed importance, and with many it became paramount. The American Hospital Association was organized and adopted "Economy in Hospital Management" as part of its slogan. The problem has been considered at every meeting of the association, I believe, and many are the valuable contributions which have been made toward its solution at these meetings. But I fear that our efforts in the past have been altogether too closely patterned after that parsimonious farmer who claimed to have succeeded in weaning his horse from the habit of eating, and would have trained him to get along without drink, too, if the poor "critter" had only lived long enough. We have made great strides in the direction of keeping down the per-capita cost of food and medicine; in increasing the efficiency of our service, while reducing the number and wages of our employees; and if there has been any tendency in our association towards "unionism" in the matter of our own wages, it has certainly not found expression.

The primary source of revenue of a hospital is its beds, with the attendant general nursing and feeding. For this service a daily or weekly rate is charged, varying in amount according to class of accommodation, which generally means merely the difference in location of beds and surrounding appointments.

In making up a schedule of rates for bed, board, and nursing in your hospital, you should, as far as possible, be governed entirely by your costs—cost of building and equipment and cost of operation. And in apportioning this cost according to the number of your beds, do not lose sight of the fact that those beds are likely to be vacant a good portion of the time. The average vacancy in our hospital is 25 percent—and at that we are overcrowded during three or four months out of the twelve. But we must keep our doors open at all times, every bed in readiness every day and night, the regular quota of nurses and employees on duty the year round; the fixed expense goes right on at practically the same rate, whether we are crowded or not. If there are already hospitals in your community, the precedent set by these in the matter of rates may have to be reckoned with in the beginning. But if you find after a trial that their rates would mean your ruin, do not give up in despair, but go frankly to your colleagues, and it is ten chances to one that you will find them in the same predicament in which you are. The course to be pursued is then plain.

When we opened our hospital in Minneapolis fifteen years ago the established ward rate in the hospitals of our city was $6 a week. We tried this rate, but soon found it inadequate. We called on the other hospitals and found that they did not like it any better than we, and so the rate was raised all around to $7. Twice this performance has been repeated without even a meeting of the hospital executives to discuss the matter, and today the nine or ten general hospitals of our city are getting $9 per week for their ward beds.

The rates charged for double or single rooms are largely a matter of location and equipment of rooms, but they must bear some proportion to the ward rate, which is the basic rate. In our hospital we have double rooms at $10 to $15 per week per bed, and single rooms at $12 to $35 per week.

It is doubtful if there is any small general hospital, conducting a training school and maintaining the ordinary medical and surgical service and equipment as required by the profession and the public today, which can care for its patients at less than $2 a day. If the hospital has no training school, but must employ a number of salaried graduate nurses, the cost will run much higher. We know, therefore, that even at $9 per week we are losing money on our ward service. This loss, however, we are able to recoup in our private rooms, especially in the higher priced rooms. Every small hospital should have as many of these rooms as its clientele can possibly support. They occupy but little more building space than the cheaper rooms, and all that is necessary to obtain practically double the rate for them is to equip them with a bath and put an additional $100 into the furnishings. This added cost will be returned several times in a single year, giving you a good source from which to cover your losses in the wards, and from which you may also obtain a surplus for free work, or for necessary improvements and extensions of your institution.

But bed, board, and nursing is not all that your hospital has to sell, nor is it all that the average patient wants to buy. Every hospital has special departments and services for which special charges are or should be made; and these charges should bear no proportion to the weekly rate paid by the patient, but should be alike to all, and fig-

ured frankly on a basis of cost, with a liberal margin of profit. If such services as the hospital renders in its operating rooms, its pathological laboratory, its x-ray laboratory, or even in its ordinary department of nursing, could be measured according to their real value, who would limit the price? Certainly not the public; so why should we, when the matter is left to us, set it so low that our institutions with difficulty support themselves?

The regular weekly or daily rates quoted by a hospital should properly not include anything more than bed, board, and general routine nursing and medication. It is manifestly unfair to fix a certain rate and then say, "This includes all medicines and dressings," or "This includes everything," as the fiction issued by some "sanatoriums" reads. Some of your patients will have a great deal of medicine, others practically none; and in these days of serums and specifics of all kinds the medicine bill often exceeds the entire weekly hospital rate. It is also unfair, both to yourself and to the patient, to fix a certain fee for operating room or laboratory service. No two cases in a day are alike, either as to time or materials required—one may take only a half hour of your operating room and attendants and just a few yards of gauze, another two hours and two bolts of each, respectively. So, why should you gamble on it? It is certain that, even if the patient feels that he is taking a chance, he does not want you to take any. And why should not your ward patient pay just as much for operating room or laboratory service as your private-room patient? Those of you who conduct hospitals in smaller communities know that the fairly well-to-do, especially among farmer folk, will often take a bed in the ward; and those of us who do business in the cities know that a great many of our ward patients are corporation cases.

I am not prepared to set up a schedule of rates by which any and all hospitals may do a profitable business, but, to illustrate the method of charging which I consider just and the rates which in our case at least have proven sufficient for self-support, I will quote a few individual accounts taken at random from our patients' ledger.

No. 1 is the case of a carpenter who fell from a building and sustained a broken forearm and a dislocated hip. His bill reads:

Ward, at $9 per week, 7 weeks 6 days	$70.80
Dressings	3.05
Medicines	1.45
Pathology	.50
X-ray department, 4 skiagraphs at $5.00	20.00
Crutches	1.25
Total	$97.05

Examining the dressing room slips in this case, we find that the patient had two casts, some special splints, and bandage material and cotton, which brought the total charges in this department to $3.05. The medicine bill of $1.45 is for a prescription, twice refilled, which the doctor gave the patient for some slight complaint not related to his injury. The pathology item of 50 cents is a fixed charge which the hospital makes for urinalysis in all cases. The x-ray department reports having skiagraphed the patient at two different times, two locations each time, making four negatives accepted and approved by the doctor. Five dollars is our minimum charge for one "picture" of an ordinary fracture case. From that the schedule rises to $10, $15, and even higher, depending on the character of the case. We find that even at these rates we are doing this work considerably cheaper than the doctors who have similar apparatus in their offices. As a result, our staff members invariably go to the hospital for x-ray work, even in minor and exploratory cases, where the patient does not remain for treatment. This department is, therefore, a source of considerable revenue to the hospital.

No. 2 is an ordinary acute surgical case. This bill reads as follows:

Room, at $18 per week, 2 weeks	$36.00
Hospital nurse, at $15 per week, 1 week	15.00
Operating room	7.30
Anesthetist	2.00
Dressings	2.50
Medicines	1.65
Pathology	2.50
Total	$66.95

The operating room charge of $7.30 consists of the following items, which the supervising surgical nurse has entered on a blank much resembling a grocer's order slip: operating room, $3.50 (which is our minimum charge for one hour or less); anesthesia, 60 cents; alcohol and other disinfectants, 50 cents; gauze, sutures, bandages, and dressings, $1.50; gowns, sheets, and towels soiled, 50 cents; surgeon's gloves spoiled, 1 pair, 70 cents; total, $7.30. The hospital employs special trained anesthetists, and makes a charge of $2 in each case for this service. The pathology in this case, amounting to $2.50, consists of the routine 50-cent charge for urinalysis and $2 for a microscopic examination of a frozen section.

Patients very rarely complain of these charges as being unreasonable. Sometimes a knowing one will tell us that such and such hospital charges just $5, no more and no less, for operating room service; but we have no trouble in convincing this person that it is just as unbusinesslike for a hos-

pital to put a uniform price of $5 on operating room service in each case as it would be for his or her grocer to put such a price on the supplies for any family's Sunday dinner, with the specification for the dinner left to the cook. As to other special charges—such as dressings, medicines, laboratory, and x-ray service—any dissatisfied patient needs only to inquire of the different establishments dispensing such supplies or services to learn that the hospital is the cheapest place to buy them.

The more special services the hospital can offer to its staff and patients, the better it will serve both and the better will be its revenues. The time is fast approaching when all the various therapeutic agencies—such as baths in all their forms, temperature and light treatments, massage, etc.—will all be centered under the roof of the modern hospital, accessible to the public at much lower rates than is now the case with each trying to build an institution around itself. When the legitimate general hospitals once take up this extension of their service to the people in earnest, it will mean the deathknell of the fake "cure" institutes which infest our land and dupe the ignorant and suffering with their pretenses to be masters of secret sciences.

My paper is already much too lengthy, and I have said nothing of the part the training school might be made to play in the solution of our problems. I have purposely overlooked this factor. I am not favorable to the exploitation of the training school for financial gain. Of course, each pupil should be given a varied number of a varied kind of cases to nurse privately in the hospital, and this service should be charged for at a rate of not less than $10 per week; we make it a rule to charge $15. And I look forward to the day when, for the pupil's own benefit, it will be the rule of training schools that each pupil must have a few weeks of private home nursing before her training can be called finished; and, of course, the hospital should charge for this service. Properly managed, the training school of even a small hospital can contribute a good deal toward the support of the institution without any abuse of the curriculum.

But I hear someone ask, "What about charity and the free work which we must do?"

Let us all be reminded that our hospitals have no obligation to do free work unless they have received money for that purpose. Money given to the hospital for buildings and equipment is money invested, and it should not be expected to yield any more in this form of investment than a fair commercial rate of interest. To this extent our hospital is obligated to do free work in return for any gift toward its erection or extension; beyond that the public has no right to expect free service from the hospital. But when a community rears a hospital, it opens up a new avenue through which its benevolent people and people of means may perform more real charitable service than through any other path theretofore leading to the poor and needy in the community. It is the duty of the hospital to educate the people to a realization of its value as a powerful means for good among the poor, sick, and suffering.

Let us come to a realization of the fact that the hospital can be nothing more nor less than the medium through which benevolent people may perform charitable service. The finest example of charity to the helpless sufferer is given us in the parable of the Good Samaritan. Preach that in your community; put it into practice. Organize the women of your town into a hospital charity association; make it broad enough to include both the wife of the banker and the wife of the baker. Such an organization, working in conjunction with our hospital in Minneapolis, has expended over $10,000 for the care of poor patients in the hospital during the few years of its existence, and the social service which it has rendered in addition cannot be measured in money. Go to the men in your community whom you know to have the means, and induce them to become Good Samaritans. Follow up the cases in which they become interested and keep them informed. Soon you will find your charity cases a source of joy instead of worry, and your good men and women will rejoice with you. Not the least joyful will be your bookkeeper, who will be able to render a statement showing all bills paid, all patients' accounts closed, and a comfortable balance in the bank at the close of the year. This will inspire confidence in your institution, and you will soon find it rated not only at the bank as a good credit, but in the hearts of the people as a factor for good not excelled by anything in the community.

An inexpensive sputum-cup, to be used in an ordinary holder, may be made of ordinary white fiber manila paper, folded and dipped in hot paraffin, which, hardening immediately on exposure to the air, glues the overlapping edges and gives support to the box. Water heated to 100° F. will not penetrate a box made in this manner. Water at ordinary temperature will remain in them until it evaporates. Sputum-boxes may be made in this manner at a cost of 8 cents per hundred. The advantages of such sputum-boxes are: 1, they are inexpensive; 2, they afford employment for convalescing patients who make them; 3, since they are white, the faintest tinge of blood is readily observed; 4, paraffin being highly combustible, the destruction of any bacteria present is assured when the used cups are burned.—Robert M. Alexander, M. D., First Assistant Physician, State Asylum for Chronic Insane, Wernersville, Pa.—Jour. Am. Med. Assn.

IDEAL SANATORIUM ADMINISTRATION OF THE PRESENT DAY.

What Has a Physician Who Refers a Patient to a Sanatorium a Right to Expect—What Is the Patient's Status?

By JOHN M. SWAN, M. D., Rochester, N. Y.

IN Bunhill Fields Cemetery, in London, the chief burial place of the nonconformists of England, there is a monument with the following inscription: "Here lyes Dame Mary Page, Relict of Sir Gregory Page, Bart. She departed this life March 11, 1728, in the 56th year of her age. In 67 months she was tap'd 66 times. Had taken away 240 gallons of water without ever repining at her case or ever fearing the operation." It is nearly two hundred years since this curious pathological record was written. Today what physician can say that he has had a patient who required tapping more than once who did not repine at her case or who did not fear the operation? On the other hand, in this day of hospital facilities for the sick, what can be done for the comfort of a chronic invalid who requires tapping once a month for an indefinite period? In other words, the problem of the care and treatment of the chronic invalid is possibly less readily solved than it was in 1728. In that day, no doubt, Dame Mary Page was carefully looked out for at home and made as comfortable as possible until the termination of her ailment. In 1913, however, we demand action, and our patients clamor for relief, and they expect permanent relief at that. Fortunately, we are able in many instances to give that relief; but there still remain the cases of chronic heart disease, chronic nephritis, chronic liver disease, and chronic joint disease, to mention only a few, that must be cared for until permanent relief is found in a merciful death. The general hospitals in our cities and towns cannot care for these sufferers. The beds are needed for acute cases; cases that can be discharged cured or improved in a short time, so that other acute cases may be admitted to fill their places. If such a patient is rich, he may be cared for by skilled attendants at home, and be made fairly comfortable and may be passably cheerful. If, however, the patient be poor, he must remain in his cramped quarters in his own house or lodgings, and he must be satisfied in many instances with what well-meaning, but nevertheless bungling, efforts are made for his comfort. If such a patient can be taken into a hospital, the authorities of the institution are likely not to desire his presence for more than three months; and the patient himself is likely to become discontented with his surroundings and to complain of the noise caused by the activities of an institution engaged in caring for acute surgical and medical cases. Then, he is liable to make confusion worse confounded by his repinings, which are often loud and long. Of course, he may be admitted to a home for incurables, if there is room and he will make application. But the institutions which undertake this kind of work are few, and the applicant often has to wait a long time before he can be admitted. Still other problems are presented by the patient who becomes delirious and excited in the course of an acute infection, and who is not a suitable case for commitment to an institution for the treatment of mental diseases.

Some of these chronic invalids are bed-ridden; some are ambulant. What shall be done with them? They are very interesting to themselves; but scarcely so interesting as medical problems, because they progress so slowly and the steps of their progress are so well understood that they lack the stimulus of the acute case. Much can, however, be done for them by the methods of physiologic therapeutics and without the use of drugs, particularly for the ambulant cases; occasionally a bed-ridden patient may be converted into an ambulant case. They need quiet, an opportunity to spend the greater portion of their days in the open air, a carefully selected and particularly cooked, nutritious diet, competent nursing, a chance to receive massage, electricity, hydrotherapy, active or passive gymnastics, etc. In some hospitals an effort is being made to supply these wants, but in the majority of city hospitals no facilities are at hand as yet for this sort of work. To meet the needs of this class of patients, numerous sanatoriums have been established in various parts of the country. Unfortunately many people associate the name sanatorium with mental diseases, and many patients who might be benefited by sanatorium routine deny themselves the opportunity of getting the amount of benefit possible to obtain.

The employment of sanatoriums for the treatment of patients suffering from chronic disease is no new thing. In the days of ancient Greece the shrines of Æsculapius were resorted to by many Greeks for the recuperation of shattered nerves and spent forces. The shrines were located in beautiful spots in the country; nature was assisted by the arts of the landscape gardener; quiet

was supplemented by religious observances and physiologic therapeutics were employed without restraint. The Romans availed themselves of similar means for the preservation and restoration of health, and the remains of their baths are to be found today wherever Rome had more than a temporary foothold. The great Christian emperor, Charlemagne, went to Aix-la-Chapelle or Aachen to be treated for syphilis. In continental Europe the sanatorium idea has been perpetuated and elaborated until today we find Karlsbad in Austria. Wiesbaden in Germany, Aix-le-Bains in France, and numerous other resorts in these and other countries annually drawing thousands of patients, real and fancied, from all parts of the world. The plan of these health resorts is identical, with individual variations. There is the *kurhaus*, a combination of restaurant, reading room, theater, and club, with its garden, containing lawns, woods, and flower-bordered walks, where music of the best kind can be heard two or three times a day. There are the bathing establishments and institutes for other forms of physiologic therapeutics; there are chances for walks, drives, trips on lake or river, etc.; there are the springs for drinking, other springs for bathing, and there is the spirit of order and regularity which helps the invalid.

These European institutions have been imitated in the United States, but, so far as the writer knows, all the American health resorts are in the hands of individuals or corporations, and are not managed by the municipality or by the state in which they are situated, as are the best of the European resorts. In the American resorts only a few of the details of the European models are copied. The *kurhaus* feature, the center of recreation, is not to be found in the American resort. If there is a good reading room, there is no theater; if there is an attractive garden, there is no orchestra; if there are opportunities for walking, there are likely to be few or none for driving, etc. In the majority of the German health resorts the card room has been abolished, or, if it is retained, games of chance are prohibited. In the United States there are health resorts in which the stock ticker can be found! Why not roulette, poker, and three-card monte? In the United States, if religion is a part of the plan, it is likely to be the largest part; and, if the secular plan is adopted, there is likely to be no opportunity for the religiously inclined person to satisfy the needs of his spiritual nature.

The physician in the United States who sends his patient to a sanatorium has a right to expect the sanatorium to provide for the esthetic side of the character of his patient, if he has an esthetic side, as well as to offer opportunities for the treatment of his disease. It would be a good plan to try to develop such a character where one is lacking. There should be at hand the quiet of woods, the opportunity to walk among flowers, the possibility of listening to good music, the ability to walk, drive, ride, motor, row, sail, or to attend a theatrical performance of some merit, according to the inclination of the patient. All work and no play makes Jack a dull boy, and all treatment and no amusement makes a patient an impatient.

The medical practitioners in the foreign health resorts are licensed to practice under the laws of the country in which the resort is located. Many of them are men of extraordinary scientific ability, and hold teaching positions in the universities. They depend for their maintenance on their professional fees, and I am sure that those of my acquaintance give their patients that advice which they consider, after a study of the case, the individual requires. The physician in the United States who sends his patient to a sanatorium has a right to expect that the sanatorium physician shall be licensed according to the laws of the state in which the institution is situated; that he shall be a man who is a student of medicine as well as a practitioner; and that he will use his best mental powers to arrive at a diagnosis which will confirm that made by the patient's physician, or, if he should reach different conclusions, that he will be able to give his reasons from the result of modern scientific study of the case. The laboratory, the instruments of precision, and the library should be at his disposal, and he should have a proper corps of trained assistants in order to be able to make the best use of them.

The opportunities for the treatment should be at the sanatorium physician's hand. There is no one drug that will benefit all patients; there is no one method of physiological therapy that will benefit all forms of chronic disease. Brine baths—hot, cold, and carbonated; fresh water baths, electric light baths, vapor baths, various douches, massage, galvanism, faradism, high frequency electricity, static electricity, x-rays, the gymnasium, the Zander institute, radium and other radioactive bodies, and mineral waters accurately analyzed, all have their place, and should be available and be administered by attendants who have as their sole motive the benefit of the patient and not the running down of a rival institution or the advancement of one particular form of treatment into a panacea. The pharmacy is still of value, and should not be abolished for the purpose of giving more of this, that, or the other form of mechanical treatment.

The weakest point in the American health re-

sorts is the relation of the business management to the medical staff. The latter depends for its existence on the former. The business manager takes the ground that it costs so much to get the patient to the sanatorium, and it is the duty, and sometimes the first duty, of the physician to keep the patient in the institution for a certain length of time in order to get that cost back into the treasury and have a little left to appear on the plus side of the balance sheet. It has been claimed that in some institutions the medical men have been expected to order as many of the more expensive forms of treatment as possible for the good of the service, and that, when enough have not been prescribed, an explanation has been demanded. A patient sent to a sanatorium by a physician will not always find conditions in that institution suitable for his particular temperament. It does harm to try to have such a patient stay when he does not wish to remain. It has been said that the physicians in certain institutions have been required to send misleading reports concerning the progress of the patients under their care to the families in order to induce a longer residence. It has also been said that at certain other institutions the physicians are required to try to make the patient believe that that sanatorium is the only place in the world where he stands the least chance of securing an improvement of his condition. I have heard of a patient with residual paralysis after acute anterior poliomyelitis who was referred to a sanatorium. After the patient had been examined and treatment instituted, the mother of the child asked the physician in charge of the case whether, if she went home and had a competent masseur who could also give the electrical treatments, the patient would not do quite as well. The physician said that in his judgment the patient would do quite as well. After the patient had left the institution the physician was called to account for his opinion by the business manager, who asked him how he thought he would earn his salary if he sent the institution's patients away.

A chronic invalid at a sanatorium will talk about his "case" with anyone who will listen—his attendant in the treatment room, his waiter in the dining room, and the other patients. He is quite able from the remarks made by these irresponsible authorities to decide that certain treatments that someone else is getting would be better for him than those that have been prescribed. The physician has a right to expect that an outlined plan of treatment shall not be changed as the result of such whims. And yet the business management of sanatoriums would advocate catering to the whims of patients in the line of treatment for the additional revenue to be derived. Immediately treatment is changed at the patient's suggestion, all control is lost. On the other hand, if the original plan is insisted upon, some patients will become dissatisfied and want to move on. It would be better to lose a patient by the latter method than by the former method.

In the Adirondack Cottage Sanatorium the following quotation from Ralph Waldo Emerson hangs in the drawing room:

"There is one topic peremptorily forbidden to all well-bred, to all rational mortals—namely, their distempers. If you have not slept, or if you have slept, or if you have headache, or sciatica, or leprosy, or thunderstroke, I beseech you, by all angels, to hold your peace, and not pollute the morning, to which all the housemates bring serene and pleasant thoughts, by corruption and groans."

The physician who sends his patient to a sanatorium has a right to expect an effort to be made to give that patient a better philosophy. One should not expect the medical staff to undertake such a task, unless one member who wishes to undertake it does nothing else. It might well be put in the hands of a trained psychologist. But the cultivation of dissatisfaction and peevishness should not be a part of a sanatorium routine by encouragement of the servants to repeat bits of gossip to the business office.

In the German health resorts a patient is allowed to pay his *kurtax* and buy his treatment tickets without consulting one of the local physicians. He may bring his treatment instructions from his home physician and follow out that treatment. There are weighty objections to this plan; but it is a more equitable plan, so far as the home physician is concerned, than the endeavor to force examinations and treatments on unwilling recipients.

The sanatorium is a potent influence for good in many cases; in others it may be just as potent an influence for harm. In order to get the best results, from the viewpoint of the patient and his family physician, the medical work should be in no way hampered by the business management. It would be best if the medical director were the responsible head intrusted with the control of the business policy, or at least with the employment of the head of the business department. Then the business office could not nag the medical staff by demanding laxity of scientific work for the purpose of pleasing and retaining a person who wished to be treated empirically or without careful study. I believe resorts should be open to the practice of any legally qualified physician. I think it would be best if the patients were sent

to the physician and not to the institution. It is a common attitude of city hospital trustees to assume that patients go to their particular hospital as a hospital. This, I believe, is not true. They go to the A hospital because Dr. X is on its staff. If the patient does not like his room, his meals, his treatment, or his physician, he ought to be free to change any one or all of them.

If in this country a place possessing the proper natural advantages of situation, climate, mineral springs for both drinking and bathing, and owned by the state or the federal government, could be thrown open, under suitable regulations, so that hotel-keepers, shopkeepers, amusement enterprises, and therapeutic institutes could do business, and legally registered physicians could practice their profession, we might hope, under a liberal *kur-direktor*, to reproduce the best features of the continental European health resort. A physician could refer his patients to another physician in whom he had confidence in such a resort for a day, for a month, or for six months without the fear that his patient would be retained twice as long as the period for which he was sent. If the patient did not like his hotel, he could go to another without the physician being held responsible for his defection. If the patient did not like his physician—and some patients do not like the physicians to whom they are referred—he could go to another. The amount of hard feeling produced in that case would depend on the first physician's philosophy. If he liked neither the one nor the other, nor the treatments ordered, he could be perfectly free to leave the place. In such a place the experiment of having a trained psychologist for the purpose of improving the mental attitude of the patient toward his affliction could be tried. The opportunity for a suitable religious atmosphere should not be neglected.

Such a health resort would in a few years attract a group of scientific men to take up the work of diagnosis and treatment, and would attract a clientele of nation-wide, if not world-wide, affiliations.

CARING FOR THE INFANT IN THE HOSPITAL WARD.

Every Child Is in Danger of Endemic Infection—Ills of Careless Feeding—Neglect—Some of the Remedies—More Nursing—More Individualism.

By ALFRED HENRY BEIFELD, M. D., Chicago.

THAT the difficulties in the care of infants are multiplied many times when, well or sick, they are kept in asylums or hospitals, is a well-known fact. In Europe, where this subject has been given close study, the term "hospitalism" has been applied to that condition into which the infant falls, which not only prevents his thriving, but which may only too often lead to his death. Up to within recent years the mortality in most foundling asylums and in many infant wards has been appalling, being sometimes as high as 90 percent. While such tragic figures are happily quite rare now, they are still often higher than need be.

Let us pass over this rather gruesome chapter in the history of institutional medicine, without attempting to interpret the lesson it might have to teach, and turn to the study of present-day conditions with the view of finding those causes which operate to hinder the normal development and thriving of infants immured in hospital wards.

Our problem may be approached from two angles—the study of those conditions developing in infants when in hospitals, and the consideration of the differences between home and institutional care of babies.

The observation has been frequently made that infants in institutions will not tolerate simple cow-milk mixtures, but will develop diarrhea following their administration. This does not occur with breast milk. It is often impossible to secure any large quantity of breast milk, and so as a result of experimentation it has turned out that cow's milk may be given, provided the sugar content is reduced so as to prevent the fermentation in the intestine responsible for the diarrheas. The albumin milk of Finkelstein is the original of this type of modification, and is tolerated when nothing else will serve. It seems to be a strengthener of digestion during its transition to more stable and permanently nutritious forms. I assume here that the directing physician is a well-trained man, for it must be obvious that without expert control no success is possible. Another cause of infantile diarrheas might be found in poor or dirty milk. To exclude any possible danger from such a source, the use of a certified milk is desirable. To further exclude damage from bad cow's milk, sterilization at 180° for 20 min-

utes is highly advisable. That the same digestive disturbances may be due to faulty feeding—overfeeding or ill-balanced feeding—must be evident. No institution in which babies are cared for should tolerate errors in the technic of feeding.

A scourge of infants cared for in institutions is infections of the respiratory tract. Ranging from simple rhinitis, adenoiditis, and pharyngitis, overlooked by the careless clinician, to the more apparent bronchitis and pneumonia—these infections, especially in the cooler months, play a deciding role in the life of the little patients. They are only too often followed by dyspepsia, with resulting loss of weight, and a definite impairment of the digestive power and probably some disturbance of the metabolism. An infant already weakened by digestive disturbances, when infected, is in grave peril, while a normal one might escape with little harm. Just so, a first attack seems to predispose to further attacks, or at any rate an infant tends to become more often infected the longer it lies in the ward. One observer has calculated that during one hundred days three infections may be expected, the first one usually occurring within two weeks after admission. That these infections are air borne from one infant to another has been quite conclusively shown by the fact that the placing of some means of separation between beds—such as screens, partitions, and the like—serves to diminish the amount of infections, which at times may reach the dimensions of disastrous epidemics. It has been found, moreover, that the placing of infants subject to respiratory infections into a room partitioned off is sufficient to prevent future attacks, while those who are ill are not infrequently relieved of symptoms such as frequent abnormal stools, after a few days. Such observations tend to prove that the infections are closely associated with digestive upsets, and the recent experiments which show that infections artificially produced cause a distinct diminution in quantity of digestive juices secreted gives a foundation for the relationship. There are some who go so far as to hold that infections of the respiratory tract and "hospitalism" are one and the same thing.

These, then, are the chief hazards to which the hospital infant is subject. Where the surroundings are unusually bad, more serious specific infections, such as diphtheria and gonorrhea, become almost endemic, nullifying any real attempts at efficient hospital care, and becoming a menace to the community.

The difference between the care that the infant receives at home and that which it receives in an institution must be apparent. A nurse must care for several infants and cannot give sufficient care to any one, while the attention given to each one is hurried and without that individualism which a mother can give to her own offspring. Hasty feeding, with little care given to its individual needs and capacity, lack of exercise, lying in its bed most of the day and for days at a time, changed too seldom, and lacking the fresh air so important to its welfare, it is little wonder that even with the most suitable feeding it does not thrive. The expression of affection also is necessarily lacking, and this is maintained by one observer at least to influence the welfare of the infant. A casual connection between institutional care and "hospitalism" is not as easy to prove as it appears, although it seems most probable that it must play an appreciable role. I was most forcibly struck by this factor while visiting two foreign hospitals in a large German city. In the one, supposed to be one of the best infant wards in Europe, the infants were in poor condition, did not thrive on cow-milk modifications, even on those best calculated to neutralize the hospital influence. In this institution the nurses were poorly trained, there was no opportunity for the carrying of the infants into the fresh air, and none of the necessary hygienic rules were obeyed. In the other, a most unprepossessing building both inside and out, the control of a thoroughly experienced nurse and a proper hygienic regimen made possible not only success in all cases, but permitted that most difficult of feats—the artificial feeding of premature babies without even an incubator.

From this rather hasty sketch we must realize the disadvantages under which the institution cared-for infant labors. It seems not to tolerate as well the cow-milk mixtures which are fed with impunity at home. It is subjected to a series of respiratory infections often disastrous or fatal. In the face of this it cannot hope for the individual care and attention so necessary to its well-being. The remedies, while obvious, are not easily put into effect in every institution, meaning, as they do, a greater outlay of time and money and a disproportionately large nursing staff.

Nevertheless, wherever it is desired to have a high degree of success in the care of the infant, it is important to have, first of all, a skilled and enthusiastic directing physician and an indefatigable and experienced nurse in charge. To combat respiratory infections, the closest watch should be kept for the outbreak of even the most innocent-appearing colds, in order that isolation and a simple local treatment may be at once instituted. In view of the fact that absolute proof of the efficacy of the partial system of isolation is lack-

ing, I should urge each institution to experiment with a temporary arrangement, such as the erection of partitions between each bed, extending out beyond the foot, in a special ward to be used for the purpose. This should be used for cases admitted with respiratory infection, as well as for those which develop in the wards. In times of those epidemics which at the change of seasons sweep through a whole institution, it may be well to use simple sheet partitions. Nurses or attendants with such infections should be transferred to other parts of the building wherever possible. Local treatment I believe to be helpful to a certain degree. It should be simple and mild, such as the introduction into the nose of a borated petrolatum, which serves, however, only in those cases in which the nose alone is infected.

As far as the care of the infants is concerned, the problem is solved by having a sufficiently large number of nurses. A proportion of one nurse to three or four babies is excellent. If these are taught to realize the importance of infinite care and are watched over vigilantly by the head nurse, much can be accomplished. Where the number of available nurses is small, a satisfactory substitute is found in the so-called nursery maids, who are trained to become infant nurses for well babies in private families. These maids can attend to much of the routine, such as changing diapers, feeding, bathing, and the like. They may be of great service in setting babies up in bed and in taking them out of doors when conditions permit. A scheme that I favor as a means of insuring that infants will be moved sufficiently is to have them taken from their cribs at feeding time.

The use of a spray bath as compared with the old-time bath tub is of advantage in several ways —it prevents the danger of infection, is tonic in effect, and saves time. The tonic effects of fresh air are so evident that every effort should be made to secure the airing of wards and the removal of babies into the air. On such occasions they should be removed from their beds.

These, in brief, are the ideal arrangements to be adopted in order that the greatest success may follow in the institutional care of the infant. There can be nothing more gratifying than to note the improvement in conditions which follows a reform based on the above principles.

Supreme Court Justice Goff, of New York, recently declined to excuse from duty for the October term of court a juror who asked for exemption on the ground that he was suffering from a slight nervous ailment. "The atmosphere of a court room," said the Justice, "is so restful and peaceful that it is better in many cases than a sanatorium. I will keep the juror until the end of the term in the hope that he will find his nerves greatly benefited by the experience."

Goat's Milk Should Be Boiled Before Using.

For many years goat's milk has been noted in this country as a food for sick babies, and in many parts of the world it is the common milk of the people. In recent years there has been much importation of the milking breed of goats, especially from southern Europe, Italy, Switzerland, Spain, and other mountainous districts, where the goat has been brought, through many generations of careful breeding, to a very high milk-giving power, and from Nubia and the desert countries of northern Africa.

Now comes the Agricultural Department of our Government, ever watchful of the interests of the people and efficient always as an agent of great helpfulness to the producing parts of our population, with a wholesome warning concerning the use of goat's milk, as follows:

Washington, D. C., scientists of the Bureau of Animal Industry have compiled a bulletin which is of practical interest to all who raise goats and to such invalids as have been prescribed goat's milk as a diet.

Proofs have conclusively established that the transmission of a fever known variously as "Malta," "mountain," "slow typhoid," or by certain other designations, to man is caused by the milk of infected goats. Careful observations in Texas and New Mexico show that the disease has always made its appearance among people connected with goat raising. Entire families have been taken sick with it on the goat ranches. The sickness appears usually after the kidding season, during the months of April, May, and June, when the people are in closer contact with the goats. Observations have also shown that just over the border in Mexico goat herders are not nearly so liable to the disease. Conclusions have been drawn that this is not due to any natural immunity, but to the fact that the Mexicans always boil the milk before drinking it, while the Americans use it raw.

The general opinion has prevailed that the United States is free from Malta fever and that the disease has occurred only through importations. It now seems evident, however, that the Malta fever has existed in Texas and New Mexico for at least twenty-five years. The fever takes its name from Great Britain's island in the Mediterranean, where the disease has been exceedingly prevalent among British soldiers and sailors. Its occurrence in tropical and subtropical localities has been noted in almost every country. A number of cases have been reported among our soldiers who had just returned from the Philippine Islands.

Pasteurization of infected milk for twenty minutes at 145° F. is sufficient to destroy the organism which transmits the disease. Therefore, milk pasteurized for the destruction of typhoid and tuberculosis germs will also be free from the Malta fever germ.

The symptoms in human beings are usually pronounced and give rise to a more or less severe affection. The most striking symptom is an attack of fever, with periods of normal temperatures. The duration of these periods varies considerably during the disease. The fever may be remittent or intermittent; it may be continuously high or low, and at all stages of the disease the type of the fever may change. It may be very acute from the onset, the fever setting in with chills and rise of temperature, associated with severe headache and pain in the back, and a general ill feeling. The pulse and respirations are generally affected in accordance with the height of the fever. The course of the disease may extend for from six weeks up to a year, and cases have even been observed in which relapses have occurred for three years. In human beings the mortality is estimated at 3 percent.

In animals the course of the disease always appears to be protracted. Cases have been noted in goats that extended over a period of more than a year. The prognosis in animals is always favorable as far as the health is concerned, but, although the disease has no active effect on goats, its eradication must be considered for the public health, and this matter is particularly important since there has been a tendency recently among physicians to advise the drinking of goat's milk for children and invalids.

The negroes of Kansas City, Mo., propose to build a $30,000 hospital for the sick people of their race.

AMBULANCE SERVICE FOR THE SMALL HOSPITALS.

By MARGARET M. MOORE.

SUPERINTENDENT JACKSON CITY HOSPITAL, JACKSON, MICH.

A CERTAIN city hospital, with a capacity of 50 beds and a monthly average of 35 patients, about half of them paying and the rest nonpaying cases, had for years used a hearse ambulance, maintained by an appropriation from the city. The janitor was the driver, and took care of the horses.

On a call there were taken from the hospital force the janitor, the orderly, and, in accident cases, the intern. The disadvantage of this arrangement is evident, and, moreover, an orderly capable of handling horses was not always available in the cases where a call came when the janitor was off duty. With all its defects, however, the system was more satisfactory to many patrons than the present arrangement, under which a private concern furnishes an autoambulance, for the service of which the city pays for each patient brought to the hospital; and the paying patient, on leaving, if his case necessitates such transportation, pays an ambulance fee much larger than that paid for his conveyance thither, a sum in which the hospital has no pecuniary interest, as it is the rate set by the motor owners themselves. For nonpaying patients the city pays the same rate as for their conveyance to the hospital. There are, in consequence, many complaints by patients of the injustice of this extra fee in addition to the already burdensome expenses of their treatment; and in many cases such patients have no choice, as they must be moved as comfortably and safely as may be, so that, as long as there is no competition in the matter of transportation, such persons are at the mercy of the private rate.

The advantage of the present arrangement is that it does away with the temporary withdrawal of an important part of the hospital's working force and at the same time frees the janitor of a double burden. Moreover, the conveyance is located downtown, where the majority of emergency cases occur.

As to the comparative cost of the two systems, the records give the expense for one year of the horse ambulance as $442 and that of the auto as about $694. This seeming greater expense of the latter system is, in the opinion of the hospital directors and superintendent, more than balanced by its far greater merits in point of speed, convenience, and comfort; while the loss of a horse and vehicle repairs have been known to make the cost of the old system greater than that of the present. And however desirable economy may be, it must always be remembered that the primary consideration in hospital service is the saving of life and not of money.

The Röntgenologist as a Specialist.

It has come to be very generally understood that the service of the x-ray expert has ceased to be that of a mechanician, and has taken on all the attributes of a medical specialty. For a long time most x-ray operators were nonmedical persons, who had taken up what was considered a branch of electrophysics. Their duty ended when they had produced for the surgeon a plate of the part of the anatomy under inquiry. But, with the broadening of the field of usefulness of the x-ray, it became apparent that the mechanical part of the work could be quite easily and quickly mastered, and that the real problem was to interpret what was on the plate; and this required a very thorough working knowledge, not only of anatomy, but of all branches of medicine, and especially was this true after the mechanical apparatus had been so developed that soft tissue changes could be noted, thus involving the whole field of pathology.

As Dr. Skinner pointed out in his article in the September number of THE MODERN HOSPITAL, this country has recognized the standing of the röntgenologist as a specialist in medicine. Germany has also taken a progressive stand on this same line, as shown by the following resolutions under which the German Röntgen Society is working:

1. Röntgenology is a duly authorized medical specialty, just as are laryngology, ophthalmology, etc.
2. The röntgenologist is a medical specialist, and, as such, in accordance with the usual medical custom, he is called in as a consultant by the patient or his physician in order to make or confirm the diagnosis.
3. The röntgenologist makes use of the x-ray examination in addition to the usual clinical examination. He alone decides what particular procedure shall be employed —radiography, radioscopy, orthodiagraphy, or teleoröntgenography.
4. All plates, diapositives, tracings, orthodiagrams, and teleoröntgenograms prepared for the diagnosis of the case are the property of the röntgenologist, just as histological preparations belong to the consulting pathologist. The röntgenologist will, however, as a matter of courtesy, be always ready, if requested, to place his plates and prints at the disposal of the consulting physician.
5. The supply of negatives or prints to sick clubs and insurance companies is a matter of special arrangement. Moreover, in urgent cases it is the usual custom for the röntgenologist to place the skiagram at the disposal of the surgeon.
6. The röntgenologist may at his discretion place a copy of the plate at the disposal of the patient, either gratuitously or on payment of a fee. This should, however, be done only in those cases where it will cause no harm or needless anxiety to the patient.

The nurse's training makes a woman patient and steady, and Heaven knows that a wife needs to be patient and steady nowadays, says the Cumberland (Md.) *News*.

The trained nurse, turned wife, is not, to be sure, of the clinging-vine type. She does not lean on a man when he is unable to hold himself up. She never contributes her hysteria to his brain-fag. She is self-reliant, self-contained. And in this age, that is what a man wants woman to be. There is absolutely no mystery in the prevailing tendency of men to carry off the best trained nurse they can find. We may even contemplate the possibility of a completely eugenic epoch when every bride, along with her marriage certificate, will be called upon to produce her hospital diploma.

PROPOSED METHODS FOR TRAINING HOSPITAL ADMINISTRATORS.[1]

Committee of the American Hospital Association Devises Course for Physicians and Different Course for Nurse Superintendents.

By W. L. BABCOCK, M. D., Chairman, and JOSEPH B. HOWLAND, M. D., and J. N. E. BROWN, M. D., Committee.

YOUR committee has prepared its report in two divisions—first, to cover the subject of the training of hospital administrators or executives whose future field of work presupposes the larger domain of the large general hospitals, and, second, the training of graduate nurses for positions as executives of smaller hospitals and as heads of departments in general hospitals. As this division is made, it becomes at once obvious that the method of training candidates under these two headings is quite distinct in subject-matter, methods, and practical application.

THE TRAINING OF PHYSICIANS AS HOSPITAL ADMINISTRATORS.

After careful consideration, your committee does not believe it is practical to establish regular courses for the training of physicians as hospital administrators. Any physician desiring to secure training for the position of administrator or superintendent of a large hospital should first take a position as junior assistant and learn the work from the bottom up. While it is true that only a comparatively small number of hospitals have assistant administrators or assistant superintendents, attention may be directed to the many excellent opportunities of training offered in state hospitals for the insane in the junior staff positions. The insane hospitals of New York and Massachusetts alone require over three hundred physicians to make up their medical staffs. Numerous vacancies occur annually, and in New York state the civil service examinations for the purpose of filling these positions are open to residents of any state. For many reasons the training in state hospitals for the insane provides an excellent foundation for work as general hospital superintendents or administrators; in fact, the regular routine, excellent methods, and administrative economies practiced in state hospital work furnish the young physician with an unusual outline for administration work in general hospitals.

Several of the larger general hospitals of the East and Middle West have from one to four positions as assistant superintendent or junior resident. These hospitals, together with the state hospitals mentioned, offer the only practical opportunities known to your committee for the adequate training of hospital administrators or executives.

Hospital administration requires broad training, covering, as it does, the executive business of the hospital, as well as certain medical and social work. It is impractical to teach this work in a limited course.

Liberal salaries should be paid assistants in training, so that desirable men may be encouraged to take up the work. The time spent in training first assistants before taking charge of large hospitals should be not less than three years, and preferably longer. The assistant, while attending to the routine duties of this position, should be familiarized with the duties of his senior, and in this manner, where several assistants are employed, each will understudy his immediate senior. It is an economical and social error to place an untrained physician at the head of a large general hospital. A certain number of physicians so placed may learn the business, but at what a sacrifice? The financial and professional interests of such an institution will certainly suffer materially until such time as the executive acquires a comprehensive knowledge of the many-sided requirements of the position.

OUTLINE OF PREPARATORY COURSE FOR EXECUTIVES OF HOSPITALS AND HEADS OF DEPARTMENTS.

This course presupposes that the candidate is a graduate or registered nurse, and has definitely decided to take up institutional work as a profession. The outline covers a requisite course of training for superintendents of smaller hospitals (100 beds or less), assistant hospital superintendents, superintendents of nurse training schools, night nurse superintendents, operating room supervisors, ward and corridor supervisors, and dispensary or out-patient supervisors. A modification of this outline could be used in the practical instruction of women for the position of housekeeper or matron.

The experience of two or three general hospitals that have for several years given a course in hospital economics, administration, and institutional nursing similar to the proposed standard course has demonstrated that any well-organized hospital of 150 beds or over can give such a course with great advantage to the pupils and material advantage to the hospital.

The heads of departments in any hospital providing this course are greatly benefited by their contact with graduate nurses from other schools.

[1]Report read before the American Hospital Association at Boston, August, 1913.

Their interest in their department is stimulated by the practical teaching methods outlined; for example, the matron, the dietitian, or the supervisor in whose department the pupil is working is keenly aroused to the necessity of making every effort to place the practical work of her department on a higher scientific and economical level. Her efforts may be stimulated by suggestions and criticisms from members of the class.

Pupils taking this course of training should act as assistants to the various heads of departments for a limited period of time, or in some capacity which carries with it a limited or circumscribed responsibility. After the course is once organized, the amount of time and attention that department heads give to pupils may be greatly minimized, and experience has proven that the teaching does not become an additional burden. It has been demonstrated that the adaptability of pupils in various departments varies to some extent, but that the general average of efficiency is reasonably high, and that few pupils fail to assimilate the training in actual practice. It is not expected that all pupils who take this course will become proficient hospital executives or department heads. A small minority, as in all lines of training, have mistaken their profession and are not adapted to institution work.

The course, as outlined, is essentially a practical one, and pupils should actively participate in the work of all departments of the hospital.

QUALIFICATIONS FOR ADMISSION TO THE COURSE.

Applicants should be registered nurses or graduates of hospital training schools which at least maintain the minimum standard adopted by the American Hospital Association in 1909. They should be graduates of at least two years' standing and between twenty-four and forty years of age. They should be single, in good physical health, and be definitely committed to a future of hospital work. If individuals could be manufactured as wanted and human nature made more pliable, it would be desirable to include in the qualifications for admission to the course a disposition and temperament of adamantine texture and resourcefulness. It should also be mentioned that, other qualifications being equal, the woman with a commanding presence, whose stature surmounts five feet five inches, and whose activity gives promise of much potential energy generally, proves the most successful in hospital work. Unfortunately all of these qualifications are seldom combined in one individual.

Nurses who seriously contemplate making hospital work their vocation should first carefully take an inventory of their mental assets in temperament, tactfulness, and adaptability, and their physical assets in stature, physique, and endurance. A conscientious survey of these qualifications, which cannot be bought, sold, or stolen, will unquestionably avoid future disappointments.

LENGTH OF COURSE.

The course as outlined covers a period of six months' practical work, including several didactic lectures. With this outline as a basis, courses of shorter duration in special hospitals could be arranged, notably in psychopathic, obstetric, contagious, tubercular, and pediatric work. Special courses in the administration of surgical departments and practical hospital housekeeping could also be arranged to cover a period of two or three months. A special course in "hospital dietetics and food service" could be given in a like period.

OUTLINE.

General Management.—Responsibilities of superintendent; by-laws, rules, and regulations; organization of departments; selection of department heads or supervisors; relation of hospital and its officers to the public; relation to city and county poor departments, associated and private charity organizations; cooperation with other institutions; attitude of local newspapers; relation of executive to board of trustees, attending medical staff, and auxiliary hospital workers; management of resident staff; appeals to public for financial assistance; nature of general and special bequests and endowments; investment of endowment funds; legal relations of hospital, its officers and employees; preparation of annual reports; preparation of specifications and contracts; general care of grounds and buildings; plans and location of new buildings; ambulance service; fire, elevator, liability, and industrial compensation insurance.

General Business Department.—Classification and training of office clerks; business principles and methods, including hospital bookkeeping; filing of records and reports; hospital statistics; office blanks and records; sources of hospital income; preparation of pay-rolls; cash balances; cost accounting; telephone service; reception of visitors; relation to other departments of hospital; receiving and recording patients' property; credit accounts; collection of old accounts.

Training School Department.—Methods of teaching; clinical or bedside demonstrations; demonstration room; preliminary course of training and special teaching of probationers; engagement of candidates; ethics of nursing; relation of training school officers and supervisors to pupils, to patients, and to other departments; training school blanks and records; preparation of curricu-

lum; assignment of head nurses and rotation of pupils; organization of night service; keeping of time books and ward and corridor inventories; construction, care and management of nurses' home; economy in the use of supplies; alumnæ work.

Matron's or Housekeeping Department—Management of central and branch linen rooms; sorting, storing, and reporting of flat work; checking and issuing linen room supplies; management, duties, and obligations of housekeeping employees; stock requisitions for dry goods, crockery, and housekeeping supplies; housekeeping time books; pay-rolls, blanks, and records; classification, discipline, and housing of employees; waste of food in pantries or dining rooms, and economy in the use of supplies; sale of old rags and other waste; destruction of vermin; inspection of waste and garbage.

Laundry Department.—Study and arrangement of laundry machinery; limitation of hand work; marking, sorting, washing, mangling, starching, and ironing; soap making; checking and issuing of washed goods; systematic and economical handling of soiled and washed clothing; handling of clothing of nurses and employees.

Steward's Department.—Contracts and bids for supplies; purchase of general supplies, provisions, perishable goods, furniture, and special equipment; storekeeper's records; requisitions for and issuing of supplies; monthly inventories of material stock and daily and monthly issue sheets; marketing for fruits and vegetables; per-capita allowance of provisions; waste of supplies; economical handling of meats and dairy products; meat cutting; cooperation between steward's department and kitchens.

Kitchen Department.—Kitchen management and division of work; preparation of food; delivery of prepared food from kitchen to pantries and diet kitchen; menus and dietaries; food waste; requisition for supplies; diet kitchen management; pantries and handling of pantry supplies; arrangement of kitchen and pantry equipment; trays and tray service; keeping food warm; night food service.

Surgical Department.—General management; receipt and issue of supplies; blanks and records; sterilization methods; preparation and care of dressings and sutures; supervision and assistance in operations; preparation for anesthesia; administration and choice of anesthetics; selection and care of instruments; planning, heating, lighting, ventilation, and equipment of operating rooms; ward and corridor surgical dressing rooms; operating room economy.

Pharmacists' Department.—Preparation of contracts and requests for bids; purchase and issue of supplies; monthly inventory and other reports; checking of prescription and issue records; storage of supplies; care of rubber goods and special surgical equipment; care of poisons and antidotes; pay requisitions for extras and special preparations; purchase of alcohol in bond.

Wards and Corridors.—Special supervision; practical teaching of supervisors in the training of nurses; general care of patients; care of equipment; requisitions and recording of supplies; relations to resident and attending medical staffs; relation to superintendent; superintendent of nurses, and other officers; attitude towards visitors.

Out-Patient Department.—Planning, equipment, and organization; special relations to in-patient department; clinical records and statistics; dental and other special clinics; school and visiting nurse work; relation to social service department.

Resident Staff.—Duties of resident physician, of house surgeon, of house physician interns; admitting of patients; treatment of accident and emergency cases; arranging of appointments; classification of patients; handling of attending staff patients; calling of coroner, police, priests, and county attorneys; consent of relatives for autopsy; handling of chronic and convalescent cases; isolation of infectious cases and care of dying; care of instruments, splints, and apparatus.

Mechanical Department.—Duties of engineer, electrician, master mechanic, and assistants; daily inspection of machinery, motors, etc.; heating; lighting; ventilation; refrigeration; purchase of coal and other supplies; water system; sewerage system.

The Threat to Close Hospital Beds.

The British people, who have almost held their breath in anticipation of direful results of the application of the Lloyd-George various compensation and insurance loans, are evidently come upon the actual realization of at least some of their misgivings.

The Hospital (London), whistling to keep up its own and the national courage, discusses the matter in this wise:

"Dealing with our criticisms on cathedral cities, the *Eastern Weekly Press* regretfully remarks that Norwich is traveling on the same road as Worcester in the financial sense, but has not yet reached the fatal edge. The writer then goes on to assume that those people who threaten the public with the closure of a ward are speaking with good cause, whereas, of course, in fact hospital knowledge demonstrates that such threats are idle in the sense that they can have no genuine force. The reason is that when a hospital is in financial distress, the closing of a ward, or wards, will not substantially help the institution's finances, for such a step merely tends to increase considerably the cost per bed occupied. It does little relatively to reduce the expenditure rendered necessary by the maintenance of a hospital capable of satisfying all the needs of the sick resident within the district which it serves."

NEW APPARATUS AND METHOD FOR DISINFECTION.

Major Munson, of the Army Medical Corps, Has Designed Inexpensive and Efficient Mechanism for Treatment of Clothing and Room Contents.

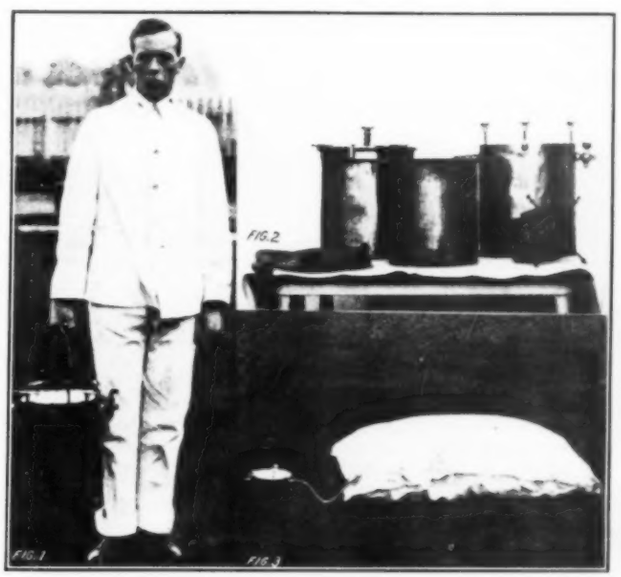
IT IS all but unanimously agreed that disinfection of rooms and contents cannot be effectively accomplished by any of the prevailing methods. Indeed, there is a general feeling that the ordinarily practiced formaldehyd disinfection is worse than none at all, because it gives a sense of security unwarranted by the actual results, and hence other precautions are likely to be slighted. Of course we know that formaldehyd gas will destroy any of the nonspore-forming microorganisms and also insects and vermin, provided there be present a sufficiently high temperature, enough moisture, and enough gas—that is, if the room or the container of the infected articles be amenable to a sealing process, so that the gas cannot escape. We must not forget, however, that the air in the room will always serve to dilute the gas and so lessen its destructive properties.

The results of many laboratory experiments showing the futility of gas disinfection as we are compelled to practice it in the rooms of a hospital, with all the physical interferences, and, what is more important, the sad experience many have had with infections contracted by patients following such practice, have prompted many excellent and careful administrators to discontinue gas disinfection entirely and to rely wholly on soap and water, or, at most, carbolic and bichlorid and water. But, however efficient these may be in the matter of a room, walls, ceiling, floors, and furniture, there is still the fabric contents of the room to be thought of.

It seems now that this problem of the disinfection of clothing is to be solved, and, as has been the case in so many instances in the past few years, the inspiration comes from the medical staff of the government service. Major Edward L. Munson, medical corps United States army, has devised an apparatus and a method for the disinfection of the soldiers' clothing and equipment that will serve the same purpose for hospitals and for municipal health service.

Major Munson's chief contribution consists of a single idea—namely, to place the articles to be disinfected in a collapsible bag. To work out his idea, which seems an inspiration itself, he had several physical problems to work out—(1) to evolve a gas generating apparatus portable in character, so that it could be easily transported to the spot at which it was needed; (2) to evolve a collapsible container easy to make, cheap, and efficient for holding the gas in such concentrated form as to make it effective.

Major Munson's experiments were exhaustive, and covered every phase of the subject—the making of an apparatus that would not catch fire or explode; that was practically fool-proof, so that the ordinary soldier could manipulate it, and that could be employed for any of the gases commonly used or desired; the selection of material for his bag, so that even the soldier on the march in an isolated country could make it.



Munson disinfection apparatus.

Fig. 1. **Disinfector.**—This disinfector, of a size suitable for posts or municipal health work, is carried like a bucket where needed to disinfect large rooms or materials. All that the man has to do is press the plunger and pure gas is delivered without spattering.

Fig. 2. **Small Disinfector Taken Apart.**—The simplicity of the apparatus is apparent. There is nothing to get out of order. The machine is self-contained, and all the parts pack within.

Fig. 3. **Disinfecting Outfit for the Field in Operation.**—The generator will charge a new gas bag with gas every five minutes. The generator may also be placed inside the gas bag among the infected articles and the gas developed.

As a part of his experimental work, he determined the destructibility of the various microorganisms, and, with the aid of Lieutenant George B. Foster, also of the medical corps, employed the bacillus prodigiosus, the colon, the various dysenteric organisms, and others. He found that with his apparatus he destroyed them all in a few minutes, whereas it took hours to do the same thing in a room when he was able to destroy them at all.

In a paper read before the last Hygienic Congress at Washington, and subsequently published

in Bulletin No. 2 of the War Department, Major Munson described in detail the work he did and its results.

Fig. 1 shows the gas generating apparatus ready for work. Fig. 2 shows the same apparatus taken apart. Fig. 3 shows the collapsible gas bag with the articles inside and with generator attached; all the operator has to do is to push the plunger. After five minutes the generator can be taken away for use elsewhere. In his description, Major Munson says:

"Several experimental generators were made. In its final simplified form, as made for me by the Kny-Scheerer Company, of New York, it is a cylindrical apparatus, which may be made in any convenient size. The material is preferably copper or brass by reason of their conductivity of heat. As little material is used as is consistent with proper strength of the apparatus, since the operation of the latter depends upon chemically generated heat, and the heating of an unnecessary amount of cold metal greatly interferes with its efficiency and is wasteful of chemicals.

"The apparatus consists of but three parts, all extremely simple, solidly built and not liable to injury—viz.: (a) an outer container, (b) a cover and gas bell, (c) a mixing can to hold liquid chemicals. Formaldehyd gas was chosen from its well-known excellent qualities. This gas was regarded as in many ways very superior to sulphur dioxid; but, as some might prefer to use the latter, it was borne in mind that the generator should be capable, with slight modification, of handling it. It was also thought desirable, if a highly poisonous gas should be preferred as an insecticide, as hydrocyanic acid, that the generator should likewise be capable, without change, of safely developing it.

"The more flexible the use of the apparatus, under the difficulties of supply in the field, and the greater the number of chemical substances it could utilize in emergency, the greater its practical utility.

"The ordinary method of generating formaldehyd, by mixing formalin and potassium permanganate in an open vessel, is a simple, easy, and excellent way of generating this gas for purposes of disinfection. Unfortunately, it is only applicable to a limited field of usefulness, as in the disinfection of rooms which can be entered while the reagents are mixed by hand. There is also much spattering of the reagents from the violence of the reaction, which must be provided against to prevent staining of articles in the vicinity.

"In order to secure the benefit of a gas for disinfection, it must be confined, if not wholly, at least to a material degree. Further, it is important that it should not be diluted with air any more than can be avoided. This is accomplished for the present apparatus as follows:

"1. By making an impermeable gas bag out of ordinary rubber sheeting. This, as furnished by the medical department, comes in rolls 54 inches wide. A strip 6 feet long, folded on itself, makes a bag 54 by 36 inches, which is able to hold the complete clothing, blankets, and equipment of two soldiers, together with the disinfecting apparatus. Any holes or cracks in the rubber are effectively sealed with small strips of zinc oxid plaster, applied hot. The edges may be stitched or pinned together for greater strength. The free edges are usually thus fastened on the two sides and the third open side for about half its length, leaving a permanent opening about two feet long, through which articles may be passed.

"In making the bag, the rubber surface is turned outside, with the cloth fabric on the inside. This is important for the reason that formaldehyd seems to combine with fresh rubber to a considerable extent, thus materially reducing the strength and disinfectant power of the contained gas in the first few experiments with such a gas bag.

"The seams of the bag are made permanently gas tight by strips of ordinary zinc oxid plaster, as supplied by the medical department, about 2 inches wide and passed over the edges of the rubber sheeting so that these come about in the middle of this plaster strip. The latter is applied hot and pressed smoothly and firmly into place. The resulting seam is absolutely gas-tight. Such a bag takes only a few moments to improvise.

"After putting the articles and disinfecting apparatus inside the bag through the permanent opening, the edges of the latter are held together and a tight joint quickly made with a suitable strip of zinc oxid plaster. This same plaster strip can be used for several disinfections without renewal.

"If the generator be used outside the bag, a glass or metal tube used to deliver the gas inside the bag is run through a hole in the strip of zinc oxid plaster. On blowing the bag full of gas and disconnecting the generator, the tube may be withdrawn and the hole quickly closed by pressing the plaster together, or it may be left in position and have plaster stuck over its open end. The rubber blankets forming part of the equipment of field and evacuation hospitals may similarly be used, or special rubber bags made for the purpose may be employed.

"Large amounts of formaldehyd can be generated in such a bag in a room without the slightest odor. As there is no loss of the gas through its escape, the generation of smaller amounts than are required in ordinary disinfection work would be equally effective.

"2. A similar impermeable gas bag can be quickly made of the soldier's poncho by sealing up the slit for the head and the several grommet holes with zinc oxid plaster. It is not necessary to stitch or fasten the edges of the poncho together, as the plaster holds firmly and the gas pressure inside is not sufficient to rupture or force it from its position. After use, the bag can be promptly pulled apart and the poncho returned to its original function. This poncho bag is 64 by 44 inches, and will hold the equipment of three soldiers.

"3. By the use of ordinary paper bags, such as are supplied by the subsistence department or are available in any community. If necessary, suitable bags can be quickly made of any size out of ordinary wrapping paper and flour paste, or the use of zinc oxid plaster to form the seams. The ordinary commercial 100-pound paper bag will hold all the clothing of the soldier, together with either his blanket or overcoat. It will not hold both of the latter in addition.

"But there are many larger bags on the market for other purposes, as, for example, the "moth-proof clothing bag." A cylindrical paper bag, 30 by 60 inches, when folded, and with due allowance made for pasting the edges of the mouth to make a tight joint, will hold approximately 8 cubic feet. In using paper bags for disinfection, they should first be looked over for cracks and tears, and these closed with strips of newspaper gummed in position with stiff flour paste. The seams are often poorly put together, and tightness may quickly be assured by thus pasting strips of newspaper over them.

"The generator may be used either inside or outside the bag. After the articles are put in, the open end is closed with flour paste applied to the inner edges, and the latter are folded on themselves and held tightly in position by ordinary paper clips. Or the end may be closed with zinc oxid plaster. If the generator is used outside the bag, the glass delivery tube may be thrust through the paper or inserted in the mouth before closing and a tight seam be made around it with zinc oxid plaster.

"Ordinary bag paper, when dry, allows the escape of very little gas through its pores. When blown up with gas, a little comes through so long as the internal pressure is greater than atmospheric pressure; but when these are equal, and as the gas inside cools down, there is little tendency to diffusion. But if the paper becomes wet, the condition is different, and the gas passes quite readily through the wetted spots, appearing as a whitish vapor. It thus becomes necessary to keep the paper bag from being wet. This can be done by using a filling of paraffin or some other such substance (such a bag is made by many concerns, as the Union Paper and Bag Company, of New York), or by wrapping the end of the delivery tube in gunny sack, towel, gauze, absorbent cotton, or similar material to soak up the excess moisture carried over with the formaldehyd, and thus prevent it from reaching and wetting the paper. Various other simple measures for meeting this need will also suggest themselves. An intercepting flask to catch this moisture has been tried, but was found undesirable in cold weather by reason of the occurrence of polymerization therein.

"No difficulty was found in accomplishing disinfection in paper bags. This has many obvious advantages for the military service and for use in civil hospitals and elsewhere. For ordinary field work, a generator like this sample, which would hold 150 cc. of formalin and 60 cc. of potassium permanganate or more, will not only do all the work required, but is perhaps unnecessarily large. Loads much smaller than the maximum may be used in the same machine, and several different sizes of generators are made to meet divers conditions. The size of the dosing box is proportioned for each apparatus so as to contain no more reagent than required for the reaction to which such machine is adapted.

"The brief time required to deliver the gas with the new apparatus not only greatly assists in the process of disinfection itself, but greatly adds to the utility of the method. A single one of the new machines is thus enabled in the same time to accomplish as much work as the aggregate of many others representing the best of the old type. This greater rapidity of operation has a marked effect on cost, for much fewer of the new machines need be purchased and kept on hand to do a given amount of work than would be required in the case of any models of the old apparatus. If used outside a container, a single generator can be connected, complete its operation, be disconnected, opened, washed out in a bucket of water, be recharged and ready for another operation within five minutes.

"One small generator could thus disinfect a dozen bags of clothing per hour. If bags improvised from soldiers' ponchos are used, each of which will hold the outfit of three men, one of these little machines will disinfect or destroy insect life on the clothing of an entire battalion of 500 men between dawn and dusk. It will deliver gas to the disinfecting bags as fast as a man could put the necessary articles into these disinfecting bags and seal them up.

"The conclusions reached by about fifty experiments, including over 200 cultures, are that, using 100 cc. of formalin in the apparatus here exhibited as suitable for disinfection in the field, sterilization of bedding and clothing may habitually be relied upon to be accomplished in twenty minutes, and, by increasing the amount and hence relative strength of the gas, there is every reason to believe that this brief time factor may readily be reduced to fifteen minutes or even lower, if thought desirable. Articles soiled with feces will, other things being equal, require a time exposure of two or three times as long.

"The penetrative powers of formaldehyd being slight under ordinary conditions, it has been commonly looked upon as uncertain for other than surface disinfection. Clothing, to be disinfected, is recommended to be well spread out and exposed to the gas for at least eight or ten hours under the best conditions, and preferably longer. By the new method this may be accomplished in one twenty-fifth, or less, of the time heretofore required, or with, say, 4 to 2 percent of the time exposure heretofore found to be necessary. This tremendous saving of time has many obvious advantages not only for disinfection in the field, but for that in civil life.

"DESTRUCTION OF INSECT PARASITES.

"It is well known that formaldehyd gas, as heretofore applied, is practically innocuous to insect life. This is the result of their exposure to a large volume of air, which necessarily can contain only a very small proportion of formaldehyd. But this gas is very fatal to insect life if strong enough, hot enough, and moist enough, and the new apparatus, which is so promptly effective against bacterial life, is even more potent against insects. Hence the use of hydrocyanic acid gas, or of sulphur dioxid, for the use of both of which this new apparatus is adapted if desired, becomes quite unnecessary.

"Especially with the collapsible container, the resulting mixture to which the insects are exposed contains a very small proportion of air in itself, with probably insufficient oxygen long to support life, and a very large proportion of formaldehyd, which directly attacks and combines with cellular protoplasm.

"With the new apparatus and collapsible container, bedbugs, flies, ants, roaches, water bugs, etc., are practically always killed by as short an exposure as eight minutes, while an exposure of twice that length would make assurance doubly sure and still mean only a trifling time necessary for insect destruction. Vermin on garments and bedding can thus be destroyed while the owner waits.

"No other apparatus and method using formaldehyd will destroy insect parasites, and the ability of the new machine promptly to kill every noxious insect on clothing and bedding, while destroying all bacterial life, places it in a class by itself and opens up a wide field of usefulness in the destruction of insect parasites in camp and garrison, on shipboard, in board of health work, and the unending struggle for the control of vermin in hospitals, dispensaries, jails, asylums, lodging houses, and the like."

When in Doubt, Get a Doctor.

A man has been charged in London with manslaughter for causing the death of his daughter, aged 7, by not procuring medical aid. His defense was that he left the case to a Christian Science woman. The judge ruled that to convict, the neglect must be wilful to be an offense. If the man knew the child was dying of diphtheria, he deserved punishment—scientist or not. If he were too stupid to see she was dangerously ill, they did not convict of criminality for pure stupidity. The jury found him not guilty, and the judge advised him for the future when he was in doubt to send for a doctor.

The MODERN HOSPITAL

Editorial Office . . . . . Monroe Building, Chicago
Business Office . . . Metropolitan Building, St. Louis

EDITORS.

Henry M. Hurd . . . . . Calvert Building, Baltimore
Frederic A. Washburn . Mass. General Hospital, Boston
Winford H. Smith . . Johns Hopkins Hospital, Baltimore
S. S. Goldwater . . . . . Mt. Sinai Hospital, New York
James G. Mumford. . . . . Clifton Springs, New York
W. L. Babcock . . . . . Grace Hospital, Detroit
John A. Hornsby . . . . . Tower Building, Chicago

SUBSCRIPTION.

Under domestic postage, $3.00; foreign postage, $3.50 (14 Shillings). Single copies, 25 cents.

Domestic rates include United States, Cuba, Mexico, Porto Rico, Canal Zone, Hawaii, and Philippines.

Contributors, subscribers, and readers will find important information on advertising page 26.

Hospitals and the Reform of Medical Teaching.

A late issue of *Science* (July 11, 1913), contains a lengthy, able, and illuminating review by Professor Mall, of Baltimore, of the report of a royal commission appointed by the late Edward VII. of England on university education in London. It is the purpose of the writer to discuss only that portion of the report which relates to the reform of medical teaching in the wards of the hospital.

It is evident that far-reaching innovations are impending in the relations of the teaching staff of every hospital which provides clinical facilities in medicine and surgery both to the hospital and the school. In too many instances such clinical teaching has seemed to be a by product of the energies of the physician or surgeon, who was often engaged in a laborious private practice and was unable to give more than a modicum of time and attention to his hospital work. The feeling is now growing to be wellnigh universal that the position of the hospital ward in medicine and surgery is precisely like that of the laboratory in connection with teaching physiology, pathology, bacteriology, pharmacology, physicology chemistry, or anatomy. The medical and surgical wards require a skilled teacher and investigator equally with the special laboratories mentioned, and the physician or surgeon who is the head of such a department should receive an adequate salary, and devote his whole time and energies to the investigation and study of disease and its treatment in the wards under his control.

The first step in this reform in teaching was inaugurated in America when in some hospitals physicians and surgeons were appointed as chiefs of medical or surgical departments, with a continuous service throughout the whole year. This arrangement enabled the head of such departments to use the material at his disposal for medical teaching to better advantage, and gave opportunities for more definite work and better relations with students in ward rounds and in clinics. The custom seems to be extending in this country, as is indicated by the recent appointments of a surgeon and a physician to the Peter Bent Brigham Hospital in Boston, each with a continuous service and a definite responsibility for a proper use of it to teach students.

It is interesting to note that in the report of the London commission this question was considered in connection with the evidence of Abraham Flexner, of New York, who had studied the conditions of medical education in the United States, Germany, France, and Great Britain. Mr. Flexner contended that all university teaching should be given only by men who were actively and systematically engaged in the advancement of knowledge in the subjects which they teach. He maintained that in teaching medicine they should give their whole time to the problems of disease, and must become members, and controlling and directing members, of a group of men working together to a common end—a group in which subordinate members are selected with a view to the special knowledge required to aid and supplement that of the leading and directing mind. They must be able to devote their time to original research, which can be made with any prospect of the largest success only in a hospital. In the hospital ward alone can men do for medicine and surgery what is now done in the laboratory for physiology or any other laboratory subject.

His statements seem to have had much weight with the commission, which was clearly of the opinion that such service to medicine cannot be expected of men who are largely engaged in private practice. Proper teaching and the preparation for it would make too great a demand on their time to permit of outside duties. Successful clinical teaching of the highest character can be undertaken only by men whose main occupation is original research in their special branches of medicine. Even if such teaching has been done by exceptional general practitioners in the past, the growing complexity of medical science, in the

opinion of the commission, renders it increasingly difficult to accomplish it satisfactorily in the future.

Sir William Osler, of Oxford, and Friedrich von Müller, of Munich, also appeared before the commission, and in the main agreed with the conclusions of the commission, although not wholly in harmony with the views of Mr. Flexner.

The discussion of the subject seems to be complicated to an unnecessary degree by the proposal to prohibit such clinical teachers from engaging in consultation work or any form of outside practice. Such prohibition does not seem essential to the proper success of the plan to furnish full-time men with a continuous service to hospitals engaged in medical teaching, and the matter may be safely left to the discretion of individual hospital boards. It is sufficient to establish the principle that the time and best energies of the occupant of the headship of the department of medicine or of surgery belong to the hospital.

HENRY M. HURD.

Sanatorium Methods.

In our October issue a few words were said on the "Sanatorium's Purpose and Setting." Let us now supplement the views there set forth by some consideration of proper sanatorium methods. As we have stated before in these columns, a sanatorium is but a special type of hospital. Both the conventional hospital and the sanatorium purport to relieve or cure the sick, and to that end both must include and must be conducted by competent, highly trained physicians of the best modern type. A thoroughly equipped staff, then, is a *sine qua non* for a sanatorium. Without such a staff a sanatorium has no excuse for being, and in this brief article we assume such a staff, and deal with no other type of sanatorium. Let us consider a further word in support of this assumption—the need of a trained staff; it is needed because of the intricacy of the work to be done and for efficient cooperation in practice. All varieties of invalids—chronic, subacute, and acute—find their way to a sanatorium. For example, during six months of the present year there were treated in a well-known New York sanatorium *thirty* varieties of organic disease, roughly tabulated, besides *fifty-nine* unclassified cases, and a considerable group of functional nervous and mental disorders, the whole list (organic, 1,448, and functional, 319) showing a total of 1,767 cases. Were one to compare this list with the list of the ordinary city hospital, one would be impressed by the greater variety in the sanatorium list, by the greater intricacy of the diagnostic problems, and by the resources of treatment demanded. Such a sanatorium clinic has been described, indeed—perhaps not inaptly—as a "clearing-house for medical failures." The routine cases of an ordinary hospital clinic are fairly obvious of diagnosis, and their treatment, whether medical or surgical, is largely routine. The cases seeking a proper sanatorium, on the other hand, are largely those in which routine treatment has failed. They are often described as the opprobrium of medicine, as undesirable cases (and by other terms less elegant), because routine practice shrinks from defeat and from the unexpected. Routine practice, in its hurried daily round, has little leisure for the study of problems. To the sanatorium, then, these failures and problems come flocking, as they have always flocked from the days of the ancients.

On another page of this issue Dr. John M. Swan, under the title "Ideal Sanatorium Administration," deals with this subject. His paper is suggestive and is abundantly worth reading, but we believe that there is a certain feature of modern sanatorium practice to which he does not attach proper weight—namely, the advantages of cooperation in practice by a group of trained men working in constant harmony. Formerly chronic invalids were truly an opprobrium, and were sent to sanatoriums to get them out of the way, or to comfort and amuse them. But who today shall say what patient is "a chronic," and what one is incurable? To the solution of these problems of chronic disease the medical profession is turning today with new and increasing interest, and our best minds and resources are concentrating on these problems. Did space afford, it would be interesting to sum up and to discuss the most familiar groups even of chronic cases, and to point out the work now being done for their relief; the new understanding and increasingly intricate treatment of the various forms of heart disease; the apprehension and therapeusis of ductless gland disease; the significance of a faulty metabolism in joint diseases, and their infinite variety and treatment, and the wide and eager discussion of those ailments anciently the despair of practice—such as diabetes, gout, blood changes, lues, lesions of the central nervous system, gastric ulcer and cancer, visceral displacements, and obscure chronic affections of the lungs and bronchi, of the kidneys, the bladder, and the generative apparatus of both sexes. Such being the nature and difficulties of a modern sanatorium clinic, must we not view with concern any proposition which aims, or seems to aim, at the ancient methods of *routine* physical therapy? Better were a voiceless inaction, or prayer to the Olympians themselves. However, we do not understand that attitude to be the necessary outcome

of such a sanatorium policy as is advocated by Dr. Swan. He, too, recognizes the value of trained specialists, though he lays less stress than do we on the value of coordinated and concentrated attack on disease. This is a matter of wide importance, and we believe its interest justifies us in continuing the discussion in our next issue.

JAMES G. MUMFORD.

The Per-Capita Cost.

In the September number of the Modern Hospital appeared an article by Dr. A. J. Ochsner which gives some very interesting statistics concerning the growth of the hospital movement. His interpretation of the per-capita cost seems to me to call for correction, not alone because he is in error, but because misunderstanding or misinterpretation of the per-capita cost is so frequent. We have another example of similar misinterpretation in Dr. Samuel Lambert's article appearing in the September number.

Dr. Ochsner says:

"What has been said regarding the original cost of construction applies to a still greater extent to the question of maintenance, because this expense never ceases. As an illustration, we need but take two of the best known hospitals in this country. In one of these the actual cost of maintaining a bed is slightly less than $1 per day, while in the other it is $3.30 per day. The difference, then, per bed for the year would be $839.50. Applying this difference to each one of the one million beds which are required in this country, and you would have wasted the stupendous sum of $839,500,000 per year, a sum so vast that one can hardly grasp it. If we do this year after year, it must be apparent that the waste would be sufficient to bankrupt any community."

It is apparent that he either says something which he does not mean, or is entirely wrong in his deductions. The statement certainly is incorrect. He assumes that any hospital costing more than $1.00 per day per patient is wasting money. There is no such standard.

The per-capita cost for 1912 for the Presbyterian Hospital, New York, was: private ward $7.57; public ward, $3.26; the New York Hospital, $2.59; the Boston City Hospital, $1.77; the Lakeside Hospital, Cleveland, $2.34; the Massachusetts General Hospital, $3.00; the Johns Hopkins Hospital, $3.19. Does Dr. Ochsner claim that any hospital could render, for $1.00 per day, such service as that rendered by any one of these institutions? It cannot be done. Yet that is what Dr. Ochsner implies; in fact, he implies that such an institution as the Massachusetts General Hospital wasted $2.00 per day per patient; or the New York Hospital $1.59 per day, or the Boston City 77 cents per day. I think Dr. Ochsner did not fully appreciate what his statement implied.

Dr. Lambert, in the article referred to above, says:

"The best test of successful hospital administration is to be found in the figure representing the average daily cost per patient per day, and the permanent reduction of all fixed charges is the essential element in economic administration."

Apparently, Dr. Lambert means that a low per-capita cost is the best indication of successful administration. Who shall say what is low and what is high, except by comparison? And of what value is the comparison unless one is thoroughly familiar with all of the factors which influence the per-capita cost. The per-capita cost statement of itself means nothing, except so far as it relates to the specific institution the cost of which is stated.

In order to compare the per-capita cost of two institutions, one must know whether both institutions are doing the same kind of work, whether both are acute or chronic, whether both have private services, maintain the same laboratory equipment, furnish the same grade and amount of nursing, maintain ambulances, social service departments, and all of the other numerous essentials to the modern hospital. One must also know whether the cost is figured on the same basis. Some hospitals figure on the basis of gross expenses, others on the net expenses; some include the out-patient department, others do not include it. In fact, there are very few hospitals which figure alike. Unless one is prepared to interpret the figures in the light of such differences, the per-capita cost shows nothing of value, either with regard to economy of administration or efficiency of service.

I have gone into this question at some length because when men of such standing as Doctors Ochsner and Lambert are guilty of such erroneous statements, it seems desirable that those statements be corrected. Hospital administration presents many problems which have taxed the abilities of many able men devoting their entire time to it. It is not a subject which lends itself to superficial analysis.

WINFORD SMITH.

The Doctor's Part in Hospital Management.

It is a common mental attitude of the layman to hold the medical staff of a hospital responsible for lapses in administration. This is due, of course, to the fact that the layman sees the hospital and the doctor as the two parts of a single picture. Not being privileged to look behind the scenes, so to speak, the layman assumes the existence of a state of things that he thinks ought to exist. The patient is sent or brought to the hospital by

his own doctor, whom he knows to be a member of the institution's faculty or staff; he knows he is in the hospital so that his doctor may have the benefit of the hospital's facilities for the treatment of the disease; he knows also that if the doctor wrote a prescription to be filled at the drug store, the written directions would be carried out to the last infinite atom. Then, why isn't the same thing true of the doctor's orders in the hospital? The layman cannot see any difference.

Before we make our point, let us picture another situation. There is a well-recognized and growing disposition on the part of trustees and administrators to plan and execute the affairs of their hospitals without very much reference to the doctors and their wants. If one seeks the reason for this attitude, he is told that the doctors cannot agree—that the calling in of the medical staff to discuss a problem is the signal for a clash and an interminable controversy, and generally for a display of selfishness and self-interest.

Medical men are disposed to resent this attitude on the part of their boards and the administrators, and their resentment is reasonable and justified. Trustees and administrators will agree to this proposition, and they will agree, with practicable unanimity, that the doctors should have very much to say about the conduct of the hospital, especially about those parts of it that refer intimately to the care of patients.

The purpose of this comment is to place the blame for this most undesirable state of affairs precisely where it belongs—on the shoulders of the doctors themselves; not primarily perhaps, but secondarily and principally. Primarily, it has been the custom of hospital boards to create top-heavy staffs. There will be one member so dominant, and usually so domineering, that everything in the institution is warped in his interest. Then all the other men can do is to protest and sulk; the strong one gets what he wants by the very force with which he goes after it. So far the fault lies with the board of trustees for building a machine whose parts do not coordinate. But boards of trustees are notoriously uninformed concerning hospital problems, and "a little learning is a dangerous thing," here as elsewhere. On the contrary, it is the daily life of the doctor to work with hospital problems and to evaluate them. Why cannot the members of the staff nullify the mistakes of the trustees, if any have been made, by creating and maintaining a staff machine, a coordinating, harmonious, ball-bearing machine, every one of whose parts fit exactly and work smoothly. To do this, so little is necessary. If each member will give a little here and there for the good of all, if the members will talk over things in a broad spirit of common helpfulness, wonders can be accomplished.

Every staff should have an organization, with officers and committees, and these committees should go at the hospital problems with a view to mastering them, so that, when it comes to a conference with the lay board, there will be one opinion and one solution. If it is necessary to fight things out in order to arrive at settlements, let the staff meet behind closed doors, with an agreement beforehand that the majority shall rule; meet away from the hospital if necessary, but come before the board with a common purpose and present a united front. If there be a recalcitrant—the strong man—let the board know definitely that the staff is unanimous, except the one. The board may decide with the strong one once, or even twice, but it will not require many meetings before even the most obtuse board finds out that there is a disturbing element, and will either straighten him out or let him out.

Organization and team work on the part of the medical staff will place any hospital's activities under the intelligent trained direction of the medical men in any hospital in this country. But wisdom, unselfishness, and common sense must be the handmaidens of a common purpose if success is to be attained.

JOHN A. HORNSBY.

Announcement of Valuable Papers.

With the December issue of THE MODERN HOSPITAL we shall begin the publication of two series of papers that we believe will be of great value to the hospital people. There will be eight papers in each series, dealing with the most intimate details of hospital administration. One of these series will be prepared at Johns Hopkins Hospital by Dr. Winford Smith and his associates, will cover the details of administration of that institution, and will be applicable to large hospitals.

The other series will be prepared by Miss Elizabeth A. Greener, superintendent of the Hackley Hospital, Muskegon, Mich., will cover the details of administration of that hospital, and will be applicable to the smaller institutions.

These two hospitals were selected for excellent reasons for the presentation of these series of articles. It has been no small task on the part of the editors to induce the heads of these two hospitals to write these papers. In both cases the superintendents felt that they were being asked to pose as examples of proper housekeeping, and it may be stated that serious arguments were necessary to convince Dr. Smith and Miss Greener that this was not the case.

We can all very well understand why Johns Hopkins Hospital would be chosen. The Hackley Hospital, of Muskegon, is not quite so well known, and a few words may be necessary. The Hackley Hospital is an institution of 60 beds. The money for the building and a considerable endowment was given by the late Colonel Chas. H. Hackley, and the hospital is a well-built institution of excellent architecture, fine appearance, and is sufficiently endowed to enable its management to carry out plans, both scientific and domestic, looking to the best interests of patients.

One of the papers in each series is intended to take up the janitor service and house-cleaning arrangements. The intention is to tell just how the house is cleaned—whether by maids or men, whether in groups or in an individual way—each maid and each houseman having a particular part of the institution to take care of and being held responsible for that part.

The implements for cleaning the house are of importance, and will be touched on; the soaps used and whether cold or hot water; what is done about the carpets and rugs; how the linoleums are treated; how the marbles and metal work are polished; how the floors are kept clean; what is done to the walls, woodwork, stair rails, and so on into the very minutest details of house cleaning.

Another article will take up the question of food; who buys the food and where it is bought, and in what quantities and upon what principles various foods are purchased; how the foods are delivered to the institution, how they are checked into the store room, and how the distribution is effected; the handling of the food from the time it leaves the store room until it gets to the patient. This will, of course, take up the question of dumb waiters, food trucks, food containers, trays, and all the various devices employed in connection with food service.

It is intended that another paper will take up the admission rooms of the hospital; how patients are admitted, who admits them, what is done for them in the admission rooms, what routine technical practices are employed in the admission rooms, what laboratory work is done on patients intended to be admitted; do patients go to observation rooms or wards, and under what conditions in each case, and why? what is done for them immediately on their arrival at their beds, and who does it, and when? when does the nursing chart begin, and how, and by whom? when is the first medical examination made? by whom?

Another paper will take up the surgical department of the hospital. The patient will be taken immediately after it is decided to perform a surgical operation; what is done for him in the way of preparation, and when? by whom is he taken to the operating suite, and how? what happens to him after he gets there? does the routine of the hospital prescribe a technical preparation after the patient arrives in the operating suite, or has he already been prepared? who performs these preparatory offices? how does he get to the operating room? is he already anesthetized, or is the anesthetic begun in the operating room itself? after the operation is over, what is done for the patient in a nursing way? is he taken to a recovery room adjoining the surgical suite or is he removed at once to his bed in the ward, and, in either event, what preparations are made for starting him on the journey? who accompanies him back to bed? do the nurses take him, or an orderly, or a house physician? who puts him into bed? who remains with him until after he wakes from the anesthetic?

The other papers in the series will cover quite as important features of hospital administration as these. One of the series will concern itself with the large hospitals and the other with the small hospitals; and again we say that we are extremely gratified to be able to present these series of papers. No doubt many of us will have our own distinct ways of doing things, but it will not hurt any of us to know just how the other hospital is doing things, and there should be valuable hints for all.

In the December issue we shall also begin the publication of a series of papers on the equipment of various classes of hospitals—the general hospital, the tuberculosis hospital, the children's hospital, the maternity hospital, the hospital for infectious diseases. There will be five of these papers, one for each month, and it may be said frankly that it is intended that these papers shall be rather lists of equipment than anything else.

We all know what brain-wearing work it is to make up lists for the complete equipment of a new hospital or a new pavilion or department. The lists to be published are intended as mere hints or reminders for those interested. In December we will have the general hospital. In the January number we will give the complete equipment of a children's hospital. In February we will equip a very small private hospital; in March we will take the contagious disease, the maternity and the tuberculosis hospital; these three will be taken together because we will have to include only the items of equipment that are special to each of these institutions, and not the items that we have already covered in one or other of the previous lists.

Another Political Investigation.

The investigation of the city hospital of Cleveland, which has been under way for some weeks, has come to an end. The conditions that preceded the investigation were due to the appointment of a nonmedical man, a social worker, Mr. Howell Wright, as superintendent, vice Dr. J. D. McAfee, removed by the mayor.

Two of the conditions under which Mr. Wright accepted the post were: 1, that he, as representative of the city, should run the hospital without political interference; 2, that he should be the sole authority, subject only to the approval of the mayor, and that he should have the right to hire and discharge anyone employed in the city hospitals in any capacity.

Charges were recently brought against Mr. Wright's administration, largely growing out of an entire new set of rules, the chief feature of which was that the superintendent should have general supervision over the medical staff and the house staff. Charges were also made of poor food and neglect.

At the end of the investigation a verdict was submitted to the council exonerating the superintendent on all the counts. Unfortunately, the majority report was submitted by democratic members of the committee and a minority report by the one republican member.

One of the findings of the minority was that the superintendent should be a medical man, trained in hospital administration; another was that the superintendent should live in the hospital; and a third was that there should be divided authority, certain functions to be performed by the medical staff, certain others by a business administration, and still others by a medical superintendent.

We do not purpose to discuss the first topic; as a general principle, there can be no argument; a trained hospital man who has had a medical education is the ideal superintendent for a large municipal institution. But Mayor Baker found a social service worker with ideals and with a capacity for business, who had the wisdom at the outset to select a medical man for his assistant. It will be interesting to watch Mr. Wright and his method of handling the multiphase problems of health—mental, moral, and physical—and the social service and sociology in which hospitals of today are so inextricably enmeshed.

As for the superintendent living in the hospital, that is nonsense. Hospital administration is a business, one full of petty annoyances and perplexing problems. Would the owners of a great commercial business ask their manager to sleep in the next room to his office at the plant? Or would the owner of a great newspaper ask his managing editor to live in the publication office merely because work is being done there during the whole twenty-four hours? No wonder that so many hospital superintendents either wear out quickly or grow so callous to petty abuses and details of mismanagement that "investigations" are necessary. And no wonder that so many of them finally become routine clerks. There are big things before the modern superintendent of a big municipal hospital. How would it do to help him a little by giving him at least as much time off the job as we would give one who had no responsibility to carry and no thinking to do? It is his business to leave the job in competent hands for the routine things that occur in the night.

As to divided authority, why does the minority want a medical man with hospital training except that he may know all the functions of the hospital, and be able to make all the parts coordinate? Divided authority invites disaster. It is too bad that Cleveland's investigation had to come with, and as part of, a municipal election.

Mr. Wright should be given a fair chance, and, if he can run a large municipal hospital satisfactorily, Cleveland had better hold him, as men of necessary qualifications for such a job cannot be picked up like posies, by the wayside. Also let Cleveland remember that it is trying something brand new in placing a social service worker at the head of so special a piece of machinery as a modern hospital; and the whole country is interested in the outcome.

Ether Day at the Massachusetts General.

October 16, 1846, the first general anesthetic was administered in the Massachusetts General Hospital. Ether was used to full anesthesia for the first time on a human being. The operation and the anesthesia were both successful.

Ether day has become an annual celebration in that famous old institution. Each year some great man of medicine delivers an oration One year it was Wm. H. Welch, the acknowledged nestor of pathology in this country. Simon Flexner, Crile, Mayo, and Elliott were the orators on other occasions.

This year it is Milton J. Rosenau, formerly of the hygienic laboratory of the Public Health Department of the Government at Washington, now professor of preventive medicine and hygiene at Harvard Medical School. Dr. Rosenau will speak of "The Problems and Progress in Preventive Medicine."

The present generation can hardly compare up

in the imagination the conditions that existed before ether came. Perhaps a little story will emphasize the point:

The famous Dudley of Kentucky was about to remove a tumor (a tumor was just a tumor in those days) from the mouth of a tough old sinner.

"What are those straps for, Doctor?" he asked, as a mass of harness was flung down before the operating table.

"I'll have to tie you, Colonel," was the laconic reply. "The pain will be so great you won't be able to hold still."

"How long will it take, Doctor?"

"About three minutes."

"Well, don't tie me, Doctor. I'll hold still. I can stand hell fire for three minutes."

The Colonel did hold still, but after the ordeal was over he drew a long breath and said, "Next time I'll let you tie me, Doctor."

Commitment of the Insane.

Recently enacted laws in the Philippines regarding the commitment of the insane for institutional care might well be copied for older and more settled communities. Briefly, the law is that any person suspected of being insane may be brought before a medical man for examination. If the physician adjudges the patient to be insane to the point of requiring institutional care, he may commit to the nearest hospital capable of giving that care. In case the patient or his family object to such commitment, one of the government health officers must be called in. If there is still protest by the patient or family, the case must go to the nearest court of first instance, and there the case is tried just as in this country. The main point is that there is no public trial and no humiliating display except in those cases in dispute, and then the patient obtains the benefit of a legal hearing.

Hydrotherapy as a Curative Agent.

In another column will be found a paper on "Hydrotherapy in the Treatment of the Insane." This paper will be found of very great interest to physicians, hospital administrators, nurses, and the more intelligent help in institutions, who must learn to use this important agent in the cure of disease.

While Dr. O'Malley has addressed herself more especially to the large institutions and to those having care of the insane and the mentally disturbed in psychopathic wards, there are many profitable lessons for the general practitioner and for the administrator of the small hospital. It is common knowledge that the medical profession is woefully ignorant concerning the modern, scientific employment of water as a curative agent, and that most of its members still view hydrotherapy as another term for "mental suggestion," if indeed many of them do not use the harsher terms of "charlatanry" and "quackery." In consequence, many fine plants in hospitals lie idle, or nearly so, and, if the hospital administrator should have the temerity to insist upon its use by the staff, he is given permission to use it in any way he sees fit —for the charity patients.

In nearly every hospital in the country patients are daily put in restraint, or are quieted with harmful drugs, when a very simple pack, intelligently employed, or a continuous bath, improvised in connection with an ordinary bath tub, would have a far better effect at far less cost to everybody concerned, and at the same time do the patient a great deal of good.

Dr. O'Malley's paper is interesting in every paragraph, and will be profitable to all who read it.

Professional Money Raisers.

It is coming to be a practice in many communities to employ professional campaign managers to direct local effort in the raising of money for hospital purposes. Efficiency well employed is an excellent thing, and undoubtedly men who have made a study of methods by which approaches to the pocketbook of the public can be successfully made will get more money than otherwise will be raised; but getting money is not the only thing to be thought of, and a stranger visiting a community for the specific purpose of raising a stated amount in a short, hurry-up campaign will be tempted to make pledges that the local people cannot fulfill after the excitement has died away. Permanent support, depending on good-will, is to be seriously considered.

A great many people in every community can be found who are more than willing to give to a hospital if an announcement be made in advance that some particular ideal of theirs is to be attained. Those in authority should see to it that such pledges or even implied promises are in keeping with their own well-thought-out intentions. Otherwise there are sure to be disappointments, followed by withdrawal of support, and perhaps active opposition.

Dr. Elliott Washburn, of Taunton, Mass., has been appointed superintendent of the State Sanatorium for Tuberculosis at Rutland. Dr. P. Challis Bartlett, former superintendent, had resigned to enter private practice in Boston.

The Wesson Memorial Hospital, Springfield, Mass., has thrown its doors open to the patients of "any reputable physician." It has 70 beds, only about half of which had been filled by its regular staff.

EDITORIAL COMMENT.

If some doctors thought a little more about their hospital and for it, and a little less about their own temporary advantage, the hospital would mean more to them in the long run, serve their real interests far better, all the patients would get better service, and hospital superintendents would be better insurance risks.

Miss Elizabeth L. Lewis, who died recently in Philadelphia, left $10,000 to the Society for the Prevention of Cruelty to Animals and $5,000 to the Society to Protect Children from Cruelty. One might preach with the eloquence of a Knox or a Calvin or a Luther, and still be able to add nothing to the above simple statement.

The doctors have recently resurrected Napoleon to make a diagnosis of the disease from which he died. They have decided it was hypopituitarism or dystrophia-adiposogenitalis. The little Corsican was a reasonably alert individual at one stage of the proceedings, and passably interested in things that were happening about him, but it may fairly be questioned whether he will become excited by these latest efforts to keep him alive, even by means of a down-to-date diagnosis. However, now that we know what ailed him, let some of our brain-surgery brothers proceed with the clinic. The operation will not materially hurt Napoleon, and may help some of the rest of us.

The question is being discussed in England again, whether it will pay hospitals to own their own farms for the production of milk, eggs, and vegetables. Milk, eggs, and all other farm products have gone so high in England, and hospital revenues have gone so low under the new dispensation, that very close economies must be practiced. There are arguments both ways on the farm-owning proposition, and in England as elsewhere probably local conditions will have to settle the matter.

Some day in the not far-distant future the economical question of farm-owning by hospitals will be discussed in a symposium in THE MODERN HOSPITAL. It is a topic full of interest, especially to rural hospitals and institutions caring for large numbers of patients partly able to participate in the farm work.

For the benefit of those who have lately expressed a doubt of the value of joint meetings of hospital administrators and members of the medical profession—as, for instance, in the hospital section of the American Medical Association—it may be stated that the Boston Psychopathic Hospital has undertaken a serious study of the problem of the care of delirious patients in general hospitals, especially the cases of the delirium tremens class.

Last June at the Minneapolis meeting there was a spirited and eager discussion of this subject, brought out in a paper by Dr. E. E. Southard, director of the Boston Psychopathic Hospital, on "The Psychopathic Hospital Idea." The question at issue was how to handle cases of delirium in the general hospital without recourse to mechanical restraint, many times coupled with the administration of sedative and harmful drugs.

The only result of the discussion was a very great emphasis on the fact that this is a serious problem in hospital administration. Even after Dr. Southard's plea for the employment of hydrotherapy in one or other of its various forms, and for the other well-recognized therapeutic agents of the psychiatrists, it was agreed that oftentimes these cases, either for their own safety or in the interest of other patients, had to be subjected to physical restraint.

Soon after Dr. Southard returned home from the meeting the first conference of the staff of the Psychopathic Hospital was held, on the occasion of the first anniversary of its opening. In the course of the meeting Dr. Southard, discussing work for the future, made the following statement:

"I will say that at Minneapolis, in the hospital section of the American Medical Association, there was long and eager discussion of the plight of delirium treatment in American hospitals, following some remarks in my paper read there last week on 'The Psychopathic Hospital Idea.' We intend to call it our special mission during the coming year to work intensively on the topic of delirium and its treatment, and perhaps we shall be able to bring something about it of interest to our next annual conference."

If the incidence of this discussion in the hospital section shall eventuate in the settlement of this very grave hospital problem, the existence of that agency for bringing about conferences between medical men and hospital administrators will have been more than justified, if that is the only thing it ever does.

Dr. Robt. B. Middlebrook, for many years night superintendent of the Kansas City General Hospital, has resigned.

Drs. Hasbrouck De Lameter and George P. Pipkin have been placed in charge of the new isolation hospital at Kansas City, Mo.

In a ten-day campaign, St. Joseph's Sanatorium, of Aurora, Ill., raised $100,000 for extensions to the present buildings. Construction will begin in the spring.

Arrangement of the New Munich-Schwabing Hospital.[1]

The first preliminary steps for the building of a third hospital in the north end of the city of Munich were taken in 1900. A commission consisting of members of the City Council, of physicians, and administration and building experts were given the task of visiting many institutions for the care of sick from Davos to Copenhagen and from Vienna to Cologne, and to submit recommendations for the new building based on their observations and their experiences at home.

The city of Munich possessed, in addition to the hospital on the left bank of the Isar, which is now about one hundred years old, another hospital on the right bank of the Isar built in the 60's of the last century and to which additional buildings were added from time to time. There are, therefore, buildings of the one-story barrack type, lighted on two sides, with 34 beds in a ward, and also several three-story corridor buildings—one with large wards, the other with average size wards and small rooms—so that the commission had the opportunity of basing their recommendations on the experiences in this variety of buildings.

Munich lies about 1,700 feet above sea level, has considerable variation of temperature between night and day; hot, sunny days are followed by cool nights, storm and wind are severe, and snowfall is considerable. Consequently it was best to decide on a compact plan—that is, buildings having several stories, which would be wind swept and offer large surfaces to lighting and sunlight—rather than decide on low buildings scattered over a considerable area of ground.

The following was decided upon: Three-story buildings, each containing 150 beds, for the surgical and medical sections. The central bay of each building is on the corridor system, with smaller wards of 1, 2, 4, and 6 beds. The end wings are designed on the pavilion style, lighted on three sides, and contain 12 bed wards and a cubic content of 40 cubic meters per bed, or about 1,400 cubic feet. Wards of 20 and 30 beds were considered too large to make a proper separation in the age and individuality of the patients, to properly separate the very sick, dying, restless, and objectionable patients, and to afford the others proper rest.

The wards were built toward the south to obtain ample light and sun in the winter. The corridors, which have an unusual number of windows, were built toward the north, which also provides ventilating them from east to west.

In order to afford the greatest quiet and comfort, a large number of auxiliary rooms have been provided for examination, dressing, baths, separate toilets for patients and attendants, large day rooms for convalescents, station rooms for the work of the attendants, serving rooms, sculleries, linen rooms, apparatus for the use of the patients, for soiled linen, for garbage and other refuse cans, heated and ventilated cabinets for scrubbing and cleaning utensils.

Each of the buildings contains a receiving bath at the entrance. The arriving patient is bathed and receives hospital clothing. The clothes are inspected, disinfected if necessary, and hung in a clothes bag in the clothing store room. Rooms are provided for temporarily isolating a suspicious case.

Each of these buildings contains 150 beds, is a complete hospital surrounded on three sides by wide lawns and may be conducted as a separate, isolated building, without connection to other buildings if such isolation becomes necessary. The heating of the large buildings is done by mechanically circulated hot water heating. The temperature is kept low. There is no overheating of the rooms and no burning of dust. The pipes and radiators do not rise to a temperature which will burn helpless patients. The windows of the wards are large, high, and have a transom at the top. Fresh air is supplied by mechanical ventilation when the windows cannot be kept open. The fresh air is taken into the ducts through kiosks in the garden at some distance from the building. It is tempered and moistened in the basement and cooled by cold water during the summer. A mechanical exhaust system was not installed, but separate exhaust ducts have been built, which end separately above the roof to avoid the possibility of a short circuit or return draft by which foul air could be returned into the rooms or wards.

Six buildings of this kind serve for the care of surgical and medical patients, and are built in a double row—three for men, one back of another, and three for women.

The central plant, which has an operating building, bath house, and arrangements for physical therapy, stands in the middle of these two rows, of which the one on the west is for men and the one on the east for women, so that there is a positive separation of sexes. The male and female sections have separate buildings for all purposes and separate gardens. The buildings of each row—i. e., for men and for women—are connected by covered heated passageways, connecting them with the operating building, which contains separate rooms for septic and aseptic operations, with the necessary auxiliary rooms and special rooms for x-ray examination and for the sterilizing of dressings and operating linen.

Mechanical ventilation was not installed in the operating building on account of danger from dust in the ducts and the possible back draft of infection in the operating rooms. The transportation of the injured or recently operated patients from the operating rooms to the wards takes place in complete protection against chilling, a caution absolutely necessary to avoid danger of post-operative pneumonia, and such does not appear in this institution. Medical patients are also taken to the central bath house in similar passageways.

To insure transportation of the sick and circulation of attendants, doctors, and visitors under proper conditions, covered connections have been built, with numerous windows and arrangements for ventilation, connecting the six large buildings with the administration section, drug store, sisters' house, and kitchen, and are used also for the transportation of patients, food, linen, etc., being thoroughly protected by day and night from wind, water, rain, and snow.

For hygienic reasons the connecting passages were so built that they passed by the buildings and did not intersect any of the buildings in the middle or at an end, and the hospital buildings are connected to the main covered passageways by short connections. By this arrangement it has been made possible to cut off the separate buildings in the event of an epidemic, and conduct these buildings through the garden entrances. The connecting passageways are low, so that they do not affect the lighting and ventilation of the hospital buildings. They serve only for passage and the transportation of clean articles. Corpses, soiled linen, garbage, and waste are transported in the underground tunnels, and are thereby not in view and cannot come in contact with patients or anything which is intended for the use of patients.

[1]Translated and interpreted by Richard E. Schmidt, Chicago, from Zeitschrift für Krankenanstalten.

To facilitate circulation, the main floors of the hospitals, the administration section, drug store, operating building, bath house, and kitchen were built on the same elevation, so that the transportation of patients or injured that may be brought into the institution, or the transportation of food, clean linen, and heavy articles, may be done by means of carts on one level, and elevated to the upper stories by elevators.

Other buildings intended for the housing of patients suffering with contagious diseases and for peculiar sicknesses, such as skin and genitourinary cases, are taken care of in separate buildings, away from the connecting passageways. A building for smallpox, cholera, etc., was built at the northeast end, and another for scarlet fever, diphtheria, etc., is also to be built. These are two-story buildings, each containing four separate units and each with a separate entrance, but so arranged that two units may be united for common use.

The waste bath water and scrub water of each of these buildings for contagious diseases is conducted into specially constructed devices set up in the cellars, where it will be sterilized before it is permitted to run into the river. Dejections of contagious diseased patients will also be sterilized, and bath water is disinfected chemically before it is allowed to pass into the drains.

Plans are being prepared for a children's hospital. The whole of the ground area of the institution has not been used for buildings, and there is ample room for temporary buildings in the event of an epidemic.

Nursing and housekeeping are performed by sisters of the order of St. Vincent de Paul, and a separate convent-like building has been built for them, so that the sisters are in the building only during service, where they are afforded ample rooms for their entertainment and for hygienic living.

The majority of the interns live in the buildings along the south side of the grounds, and a few live in the upper stories of the hospital and buildings, which are at some distance from the administration building. Rooms for interns are provided in the special buildings for infectious diseases, where they can be used as required. As a rule, each intern has two rooms. (I doubt if they have interns in the same sense as in our hospitals.—Translator.)

Water for drinking, cleansing, bath, and garden sprinkling purposes is obtained from the city supply. Water for laundry and steam heating purposes is pumped from wells on the ground. Buildings for washing, disinfecting, power, and heat are placed along the north edge of the property, to separate them as much as possible from the hospital buildings, and are so placed that the prevailing winds do not carry smoke and air from them to the hospital buildings. Only the kitchen was placed close to the hospitals to facilitate the transportation of food to the patient.

The disinfecting rooms and a laundry have been so arranged that linen will travel through the rooms in such a way that clean pieces will not pass through rooms through which soiled pieces have passed.

The treatment of patients is based on a scientific foundation and is supported by results of research, and consequently a large library and an extensive equipment of scientific apparatus have been provided. The smaller buildings have laboratories of moderate size for chemical and microscopical examination. The center of the scientific activity is in the dissecting room of the pathological building. Post-mortem examinations are conducted here to give the physician an opportunity to determine the correctness of his diagnosis and to teach him how he may arrive at subsequent conclusions from these observations for the benefit of the sick.

The religious interests of the hospital population are taken care of by a Catholic church and a Protestant prayer room, and a Kosher kitchen is provided for the Israelites. The buildings intended for the care of the sick are rigidly separated from the buildings for administration, drug store, service, and living quarters, and in the construction of all buildings solidity, durability, simplicity of execution, and practical economy were practiced and unnecessary ornament and expense were avoided. There is no doubt that an abundance of light, well-illuminated and large rooms, absolute cleanliness, ease of supervision, and safety will further the object of the institution—namely, the treatment of the sick—and assist the attainment of this object in the most practical manner. The gathering of a large number of sick and an accumulation of articles used by them may, without proper attention, be a great and threatening danger of sickness to the well inhabitants of the institution.

The new building was discussed at the thirty-second convention of the German Society of Public Hospitals in Bremen on September 19, 1907, and the three-story hospital buildings and the connecting corridors were criticised. The convention was of the opinion that only two-story buildings should be built and that connecting corridors are unnecessary, but from our experience with the older hospital in Munich and in the past three years in the new one, we believe that three-story buildings facilitate the care of the sick in a humane manner without any drawbacks or other objections. Small wards and a sufficient number of auxiliary rooms carefully separated from the wards afford the greatest advantage for the care of the sick, and a special advantage is presented in buildings of the corridor plan. The covered passageways are a benefit both to the well and the sick.

Sea-Side Hospital Branches Out.

One of the splendid children's charities of this country is the Sea-Side Summer Hospital, conducted by St. John's Guild at New Dorp, Staten Island. For more than thirty years the Guild has been doing its work, growing a little each year. Now it announces that the summer service it has been rendering the sick poor children of New York City is to be continued through the winter, and hereafter the hospital is to be kept open all the year. To the regular service will be added, through the winter months, the care and treatment of convalescent mothers discharged from hospitals in the city before they are fully able to take up again their arduous household duties. The situation among the very poor of the city in this regard has been and still is a serious one. The new buildings of Sea-Side Hospital, opened this summer, will be used during the winter months to relieve it. It is also the purpose of the Guild to continue through the winter the treatment of orthopedic cases, heretofore so successfully carried on during the summer.

Sea-Side Hospital is the largest children's summer hospital in the country. During its long service it has been the means of saving the lives of many thousands of the sick children of the poor of New York, and this season alone more than 15,000 days' treatment have been given. Its service is unique in that it not only restores to health the sick baby, but cares for the mother and other children of the family during the time required for the complete recovery of the sick child.

St. John's Guild was founded in 1866. In 1873 two

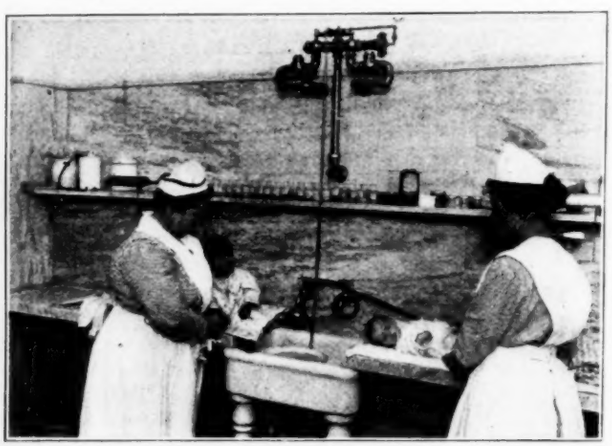
excursions were conducted by the Guild upon hired boats. In 1875 a floating hospital was purchased and equipped. In 1881 the Sea-Side Hospital was started, and the summer opened with four mothers and eight children as patients. During the season thirty-six mothers and sixty-seven children were cared for.

The hospital equipment today consists of twenty buildings, including eight large wards and four solariums for children and their mothers; an annex; a detached build-

Front view of new hospital buildings of the Sea-Side Hospital building of St. John's Guild, New Dorp, Staten Island. The number of mothers, children, and babies being cared for in this institution on August 20th was 428. The total number admitted to date this season, 1,920, with an average stay per patient to date of 10.8 days.

ing, the Lewis Memorial Cottage, for very sick infants; an isolating building; nurses' quarters; servants' quarters: lodge; stable; power house, the latter containing a steam and electric light plant; and also a completely equipped laundry plant.

The extent of the work of the Guild is partially shown by the fact that since the beginning of the several departments of work there have been cared for on the floating hospital "Emma Abbott" from 1875 to 1902, inclusive, 909,104 patients; on the floating hospital "Helen C. Juil-



Irrigating room in new Sea-Side Hospital buildings of St. John's Guild at New Dorp, Staten Island.

liard" from 1899 to 1912, inclusive, 577,720 patients; at the Sea-Side Hospital from 1881 to 1912, inclusive, 51,913 patients, making a total of 1,538,737 mothers and children.

There is only one requirement for admission to any of the hospitals of the Guild—sickness or an acutely depressed physical condition—and when either of these is evident the child is received into the hospitals without question and the very best medical skill is called upon to help the patient regain health. No child, however sick, is refused admittance. If, as is often the case, the chance of recovery is seemingly beyond hope, the condition is explained to the mother, and, if she is willing, the chance is taken and in many cases the child is made well. To this service has now been added for the winter months the care of mothers after childbirth until they are well and strong to take up again the duties of the home.

Admission to the hospitals of St. John's Guild is secured by tickets widely distributed through the Department of Health, hospitals, dispensaries, day nurseries, physicians, churches, and organizations which come in touch with the poor of the city. There are now over 1,500 of these distributing agencies throughout the city.

The officers of the Guild are Seymour L. Cromwell, president; W. W. Flannagan, first vice-president; Abraham Jacobi, M. D., second vice-president; John W. Weed, chairman executive committee; Mortimer M. Singer, secretary; Isaac N. Seligman, treasurer. The list of trustees includes John W. Weed, John T. Ijams, W. W. Flannagan, William Sherer, William H. Burr, Charles A. Moore, Isaac N. Seligman, John D. Crimmins, Abraham Jacobi, M. D., James A. Blanchard, William R. Corwine, Duff G. Maynard, Seymour L. Cromwell, Mortimer M. Singer, Edmond J. Curry, John W. Frothingham, Arthur Iselin, George Cromwell, Carleton Montgomery, Clinton H. Crane, Leeds Johnson, Alvah H. Doty, M. D., John C. Travis, Morgan M. Mann, John West Hornor, Jr. The general agent is Mr. S. Boyd Darling. The office of the Guild is at 103 Park avenue.

Committee for Important Work.

One of the important committees that Dr. Howell has announced his intention to appoint this year is one "To study the character, cost, and value of direct and indirect work for the prevention of disease now conducted by hospitals and dispensaries, to arrange in the order of their importance and practicability successive steps for the extension of such work, and to prepare methods for its financial support for its correlation with the similar work of other agencies, public and private."

This is a committee that was ordered created a year ago by a resolution introduced at Detroit by Dr. Goldwater. At that time Dr. Goldwater introduced the matter as follows, according to the language of the stenographic report:

"Dr. Goldwater: I want to offer a resolution which I shall take the liberty of explaining very briefly before presenting it. These meetings, during the last two days, have been very helpful and instructive to all of us, but I am sure that many feel that Dr. Emerson's failing to put in his appearance represents a distinct loss to the association. Doubtless we will have the benefit of Dr. Emerson's contribution at some future time. I am sure Dr. Emerson could have presented this subject to us in the lucid way which is characteristic of him. All of us, no doubt, are ready to see the very close relationship between preventive medicine and hospitals. Usually hospitals are designed chiefly, if not wholly, to take care of the sick, but in my mind it is utterly impossible to divorce the 'with sick people.' When, for instance, it happens to one, just as it has happened to me recently, that we receive in our hospital within three or four weeks six members of a single family coming in successively suffering from typhoid fever, we naturally ask ourselves whether we do our duty when we take care of these cases in that way; or whether, on the reception of these cases, we first make it a point to look into the condition whence these diseases came, with a view of preventing the same among the people of the home. We are all doing preventive work, whether we know it or not. When we establish maternity wards, when we bring into the hospital the mothers who are better taken care of there than at the home, we really are doing something in the way of preventive work. It is a physiological function, properly handled, but the admission to the hospital ought to be sanctioned as a preventive measure. It saves the mother and frequently the child. In our dispensary we find it impossible to do effective work without stepping aside out of our line into lines of preventive work. When

we see the same children coming back again and again, see the same recurrence of the disease, we think possibly it is a public duty and also a matter of economy on the part of the hospital itself to step outside of the province of the hospital and see what can be done toward preventing those children from coming into the hospital as often as they do. Those are just a few of the many ways in which we are being drawn into lines of preventive work. The question is frequently raised how far hospitals ought to go, to what extent they ought to organize their work in these various directions, whether they ought not to possibly supplement the work of the health department, which of course is distinctly preventive. When we receive a case of contagious disease and inform the health department, and they send investigators into the home of the patient and suitable preventive measures are taken, we are engaged actually in the prevention of disease. But the question is, how far ought we to go?

"For instance, in communities where the health department is sufficient, whether we ought to organize statistics, whether we ought not to present to the public more satisfactory measures that can be taken for the care of the community as a whole. These are some of the very many interesting questions which come up every day before the hospital administration. It is these ideas that led to the preparation of this resolution, with the sanction of a number of the members of the association:

"Resolved, that a committee of five be appointed by the president to study the character, cost, and value of direct and indirect work for the prevention of disease now conducted by hospitals and dispensaries, to arrange in the order of their importance and practicability successive steps for the extension of such work, and to prepare methods for its financial support for its correlation with the similar work of other agencies, public and private.

"Resolved, that the sum of $250, or as much thereof as may be necessary, be and is hereby appropriated to carry out the purpose of the foregoing resolution."

Evolution of the Igorrote.

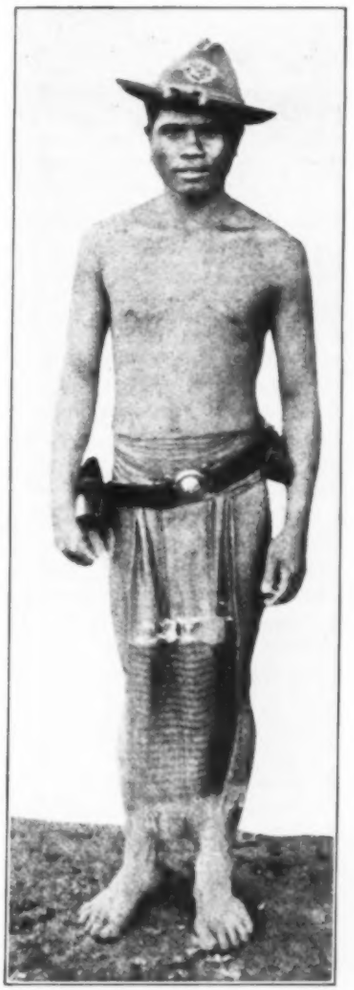
The doctrine of physical ministration for the benefit of the soul is not a new one, but its practical application among the head-hunting Igorrotes and the other savages of the Philippines is something out of the ordinary, and rather a reversal of the usual procedure. Generally the missionary wants his subject to realize at the very outset that his mission is a spiritual one. In the Philippines this process does not seem to have worked out well, because

Philippine hospital at Bontoc.

in a hundred years or so the Spanish clergy seems not to have made much impression, but rather has succeeded only in contributing scalp-locks, heads, and other grewsome relics to decorate the homes of the savages.

Now the medical department of the Philippine government is trying the physical welfare doctrine, with the following results, as cited in a recent report of Director of Health Dr. Victor G. Heiser:

"The influence which the extension of medical and surgical relief and the establishment of modern hospitals has had in bringing the wild man to the ways of civilization can probably never be accurately estimated. It can scarcely be successfully gainsaid, however, that the policy of winning the wild man through peaceful means had its most powerful weapon in the feeling of gratitude brought about by the ministrations of the doctor. The progress



Philippine vaccinator.

along these lines has been phenomenal. Where, a few years ago, wild, head-hunting savages roamed through the hills at will and indulged in their murderous practices on every hand, there now exist modern hospitals where their ailments are treated, and the doctor and nurse go about the country in security, ministering to their physical ills. The latest of these hospitals was completed and opened at Bontoc for the reception of patients during the early months of the present calendar year. The hospital is a modern brick structure, of thirty beds capacity, with ample facilities for the treatment of out-patients, and with room for housing a portion of the personnel."

Not only is the Bontoc hospital a comely, clean and sanitary structure, as the accompanying illustration shows, but the second illustration indicates that the savages themselves are not unwilling participants in the white man's efforts in their behalf. Working out of the hospital, and as a part of the out-patient service, are native assistants, the one in the picture being a professional vaccinator. It seems he does not wear the regulation duck of the American doctor, but makes a fine appearance of efficiency, clothed in his new authority and a military belt and hat.

FOREIGN CORRESPONDENCE

LONDON LETTER.

Crisis in Affairs of London Hospitals—Many Beds Closed —Funds Being Withheld—American Plan of Pay Beds Already Started—"Nursing Homes" in Disfavor.

London, October 15, 1913.

Recently the *Morning Post*, one of London's best-edited daily papers, has done good service to the hospital world by publishing in tabular form some information that has just been procured from the secretaries of many London hospitals in response to a circular seeking information concerning the number of beds now in daily occupation and use, and of those closed through lack of funds. The replies so far obtained show that in London at least 133 beds are closed for lack of funds, and that in respect of several institutions a reduction of subscriptions in consequence of the operation of the National Insurance Act is alleged. Another point brought out clearly is that many secretaries agree that it is now an issue of practical moment whether or not it will be possible longer to maintain our voluntary hospitals on their present basis. That not merely subscriptions are falling off, but legacies, is freely admitted, and complaints of lack of funds are general. But some secretaries, who are reluctant to acknowledge that the time for state, or rate, support has come, yet seem to think that the basis on which appeals for charitable support have hitherto been made should be abandoned, and that the public should be asked to contribute funds rather by reason of the plea that the whole community will be benefited by the increase of knowledge flowing from more efficient hospitals and schools, than from purely philanthropic motives. In other words, it is hoped that the rich, if they will no longer subscribe in order that the sufferings of the poor be relieved, will do so in order that increased skill and knowledge may be at their disposal in the future. Some of the very rich may from time to time place large sums at the disposal of hospitals and medical men for purposes of investigation and research, but, speaking generally, the British public is a little shy—curiously so, perhaps—of subscribing to hospitals on such grounds. The unexpressed feeling really is that, if money is to be devoted to the prosecution of research, it had better be provided by the state, and be distributed under control, than subscribed voluntarily by the general public, to be expended by the uncontrolled authorities of individual institutions. Charity is one thing, I have heard it said; the business of conducting research and furthering preventive medicine is another; and so far the results in England of endowed investigations have been singularly sterile. For this there are several reasons which need not now be pursued. No real confidence can, therefore, I think, be placed in the hope that the voluntary hospital system may be supported, if the flow of charity fails, by such pleas as this, that subscriptions to the maintenance of hospitals increase the sum of knowledge and skill available for humanity at large. Some other replies received by the *Morning Post* are of special interest.

"The secretary of University College Hospital prefers not to attempt any forecast for the future, but adds: 'The prospect of maintaining the voluntary system at our great hospitals is not encouraging, and I think you would be doing a public service if you opened the eyes of your readers to the fact that, if they fail to maintain the hospitals by voluntary contributions, they will be faced with a compulsory burden of some twenty millions annually in the form of taxes, or rates, for the support of these indispensable institutions. You would also, I think, be doing a public service by emphasizing the necessity of safeguarding the voluntary system of our hospitals as a national heritage, admired and envied by all foreign countries—a system of which gratuitous personal service, sympathy, and care for each individual sufferer are the outstanding features and incontestible arguments for its continuance.'"

The answer to this is that the taxpaying public know that, if hospitals are "put on the rates," they will be allowed to participate, on terms, no doubt, in the medical bounties now enjoyed only by the poor.

With reference to the operation of the Insurance Act, the secretary of the Hospital of St. John and St. Elizabeth states:

"We have not actually closed any of the beds, but owing to the recent great increase in the cost of food, rates, income tax, etc., we may soon have to do so, because our expenditure has become much greater than our income." The secretary of the Royal Maternity Charity, which is a charity without hospital or home, writes: "Since the Insurance Act came into force the charity has lost a great many of its annual subscribers, and donations have not been by any means up to the usual amount; due, we believe, to the erroneous impression amongst the charitable public that every poor married woman will receive the 30s. maternity benefit during her lying-in period, whereas as a proved matter of fact there are hundreds and hundreds of the wives of the unemployed and casual labor class who through unstamped cards fail to qualify for it. . . . It thus comes about that (1) we have lost much public support, and (2) the poor women for whose benefit this support used to be given are finding out that 'from him who hath not shall be taken even that that he hath,' and are beginning to turn again to seek the aid of the hospitals and charities which always helped them, whilst these latter are in a worse position to meet the strain. The logical conclusion of this is that the maternity benefit scheme of the National Insurance Act helps those, to a certain extent, who are in employment, and consequently can better afford to pay the midwife, whereas those who are out of employment are left to shunt for themselves, and fall between the devil and the deep sea."

A point brought out clearly is that several of the hospitals are being obliged to meet current expenses out of capital. Thus, at St. George's Hospital, "no wards have had to be closed for want of funds, because the hospital has a reserve capital fund, which is, however, being depleted to the extent to about £10,000 a year." The ordinary expenditure has exceeded the ordinary (certain) income during the last three years as follows: 1910, £15,-700; 1911, £13,900; and 1912, £18,000, and this means that the hospital has had to make use of any legacies received instead of investing them, and in addition to realize stock. The secretary of the Royal Eye Hospital writes in the same strain: "We have to use capital to keep going; our annual voluntary income is not sufficient, and recent legislation is further diminishing receipts."

In some cases appeals for money are being made in order to pay off bankers' loans. Thus, the Great Northern Central Hospital writes: "An appeal for £11,000 is now being issued to repay a loan from the bankers of £7,000,

and to meet current expenses in excess of income." The City of London Lying-in Hospital has had to borrow £10,000 from its bankers for compulsory rebuilding. The East London Hospital complains: "This year has been a very bad one; we are so much in debt at the present time that it is quite likely we shall have to curtail our work at the end of the year." The Royal Hospital for Incurables owe their bankers £2,000. Many of the institutions emphasize the urgent need of money. Thus the Belgrade Hospital for Children: "Should the present support not continue, beds will again have to be closed." The Queen Charlotte's Lying-in Hospital: "The beds have been kept open with the greatest difficulty, for the income during the last two years was £3,227 short of expenditure." The Queen's Hospital for Children: "No beds have ever been closed at this hospital for want of funds, but the absolute necessity for such a step has almost arisen on two occasions recently—namely, in 1904 and 1909. We have managed to get over our difficulties without resort to this disastrous expedient thus far, but we hope that the public will appreciate the fact that we are none the less in need of support. The expenditure for 164 beds and treatment of 30,000 out-patients (75,000 attendances) annually is £15,000, while the income from endowments is £400." The Royal Westminster Ophthalmic Hospital: "Though funds are falling off we have managed to keep all our beds open. Maintenance expenses are increasing yearly." The National Hospital for the Paralyzed and Epileptic: "The total amount by which income has fallen short of necessary expenditure during the years 1910, 1911, 1912, has been £8,173. Unfortunately, nowadays most of the London hospitals have to rely upon legacies to supply part of the annual income, and should these fail, as they have done very frequently in recent years, the charities find themselves in some difficulty; this is our case, and we do not see much prospect of any immediate improvement."

An optimistic note is struck in the reply from Mr. Melhado, the well-known secretary of the Middlesex Hospital, who writes:

"Never in the history of the hospital has its bed capacity been reduced, even during those periods of grave financial difficulty which most charitable institutions experience from time to time. It may possibly be said with truth that money is not so easily obtained now as it was some years ago, but it is by no means certain that careful analysis would show that to be the case. Whether it is so or not, the fact remains that, if trouble is taken to interest the public in the work of a hospital, and confidence in its administration is established, the money required for its maintenance is forthcoming."

But, then, the Middlesex Hospital has enjoyed, during the last ten years or so, the inestimable advantage, which Mr. Melhado would be the last not to acknowledge, of the prestige that has become attached to it through the remarkable and really splendid work done on its behalf by the brothers of Her Majesty Queen Mary. Prince Francis of Teck, whose untimely death three years ago was and is so deeply regretted, worked really nobly and indefatigably on behalf of the hospital, occupying himself for many hours a day in its interests, and his brother, Prince Alexander of Teck, has taken up its cause with no less enthusiasm and ability. But the very fact that it is under such circumstances that the secretary of the Middlesex Hospital speaks with such optimism indicates that the present system as one of general applicability in the near future is doomed.

A sign of the times of considerable importance is afforded by the statement of the secretary to the Charing Cross Hospital, in which attention is drawn to the fact that five of the wards at that institution are at present closed for lack of funds:

"The reason these beds were closed was that we had a mortgage of £85,000 on the hospital property, and the annual charge for interest and sinking fund swallowed up funds which would otherwise have been used for maintaining these closed wards. This mortgage debt has now been reduced to £62,000, and we hope in the next few months to reduce it still further as a result of the appeal which is now being made by Lord Lonsdale. We have, at the same time, a scheme for opening three of the five closed wards as wards for patients of moderate means on a small payment basis of two guineas per week. These, if successful, will be self-supporting. The other two wards are to be opened for free cases, one for children and one for special diseases—eye, ear, nose, and throat, skin, orthopedic, etc. The amount required to carry out the necessary alterations for opening these wards in the manner stated is some £6,000, and about half of this has already been promised us, so that we have every hope that we shall shortly be able to proceed with the scheme which we contemplate, and thus have the whole of the hospital once more in full use."

I believe that this step was contemplated before Sir William Osler delivered his recent remarkable allocution on the subject of paying beds and wards, but it is clear that the tendency to follow his suggestion has already set in, and it will be interesting to see which hospitals follow suit. It may well be that the principle will be rapidly adopted, and it seems obvious that if a part at least of each hospital is set on one side for paying patients of moderate means, the complete control by the state, or by municipalities will be long deferred.

Amongst the various influences which must be reckoned with as determining the trend of public opinion in favor of such action as that contemplated by the authorities of Charing Cross is, undoubtedly, the grave and increasing dissatisfaction felt by all classes, medical and non-medical, at the laxity of management and the exorbitance of fees charged that now characterize so many of the "nursing homes" that flourish in the West End of London. Yet, in the absence of private hospitals controlled by medical men, or of private wards in public hospitals, the public have no option but to submit, and the doctors have no option but to advise them so to do. With the coming increase, however, of paying wards and beds, here and there, in hospitals, the day of the nursing home will draw to a twilight close.

F. G. Crookshank, M. D.,
Physician to the North-West London and Hempstead General Hospital.

BERLIN LETTER.

A "Small" Hospital—Description of Its Principal Features—The German Idea of Institutional Work.

Berlin, October 20, 1913.

A return to Europe after two years of absence has opened old wounds. I should have left hospitals alone, except as I happen to see them merely from the laboratory side in the course of the work which interests me. But this hospital-letter-writing thing has been thrust upon me, and I cannot go through the institutions here, in France, in England, and especially in Germany, without acute mental anguish. I thought that I had closed the book of my short experience as a so-called hospital official, but I find that each day here rubs off a little of the scab and I am rapidly getting down to the still bleeding ulcer, which has never completely healed.

To be absolutely frank, I feel that we had the makings of one of the best municipal hospital systems in the

world right in St. Louis. By a fight of the hardest sort, and by stubborn persistence against all sorts of odds, the way was opened for a modern, up-to-date, enlightened hospital policy which would have made St. Louis a real medical center instead of a mere transfer station for Chicago, Baltimore, and Rochester, Minn. But because of the wavering policy of a mayor, who was too anxious for the tax rate and too easily advised by an honest but miserly official, who put pennies before policy, the city of St. Louis had to lapse into the good-enough-for-the-pauper state that characterizes so many municipal institutions in our country.

In St. Louis our hospitals are physically good enough now, there are plenty of bricks in their walls, and they have nice composition floors, and even rounded corners to avoid dirt accumulation. But when one looks around for that subtle thing called "tradition," it is not to be found. And the sad thing is that the present organization will never produce it in St. Louis.

Most of the hospitals of Paris are rotten physically; they are ruins of a hundred years or more ago. Your feet may go through the disintegrated flooring and the plaster (if there is any left) may assail you from the ceiling as you walk the wards, but it is in these hospitals that men like Babinsky and Tuffier and Widal have been developed. And never in a thousand years will we develop such men in our municipal hospitals in St. Louis under our present system.

This may appear rank pessimism, I know, but I do not mean to infer that we in America are hopelessly lost. Pessimism obtains with the utmost freedom with the medical profession everywhere, and, if you talk with a hospital physician either in Berlin or Paris or London, he will probably tell you that the particular system under which he is working is the worst possible, and that everything is rapidly going to the bad, with no chance of salvation in sight. In Germany, for instance, they tell you that the municipality is spending too much money; that they are rapidly reaching the point where the taxpayer cannot stand the onerous burden that is being thrust upon him, and that sooner or later they must come back to the voluntary system of hospital support. In France, on the contrary, the complaint is that they can get nothing like a sufficient sum from the municipality even to keep up their routine work. And when you come to England you are met with the mournful statement that not only the hospitals, but the entire medical profession, is in that transitory state that awaits only another nod of the head from Mr. Lloyd George to be swept out of existence completely and forever. But, notwithstanding all this talk, the hospitals everywhere seem to get along somehow or other, and the sick, whether rich or poor, don't have to sleep in the streets—yet.

However, I started to write about some more of the German hospitals and I must get back to my mutton. One might think from what has already been said about the extent and excellence of the Berlin institutions that the people living in the immediate suburbs of Berlin would be perfectly willing to make use of them. But there is nothing like setting a good example (as well as a bad example) to acquire a following; therefore the people in the suburbs of Berlin say, "Why should we waste a half hour in a taxicab when we can build hospitals of our own?" and the result is that the suburbs of Berlin possess hospitals as wonderful in their way as those in Berlin itself.

I will omit the Charlottenburg Krankenhaus for the present, for Berlin has spread itself out so rapidly that one practically considers Charlottenburg as a part of the city of Berlin. It might be stated in passing, however, that this hospital, which was erected in 1900-1905, can care for about 700 patients and cost over $1,500,000.

What I wish to write about more specifically in this letter is a hospital to the north of Berlin, in a community that also is now almost a part of the city. One can reach it easily in an autobus from Friedrichstrasse. This hospital bears the rather formidable title, "Krankenhaus der Gemeinden Reinickendorf, Tegel, Wittenau, Rosenthal." (I shall try not to repeat the name.) As can be seen, it is an institution built by these four communities

Reinickendorf Hospital—Administration Building.

on an agreeably worked out financial plan of construction and maintenance, based on the number of patients coming from each town.

If one has the idea that the German people are not hustlers, they should look up the history of this institution. The plan was conceived in August, 1906; the plan was perfected in June, 1907, and the land obtained; the buildings were begun in October, 1908; and in October, 1910, everything was completed. While the hospital has at present only 200 beds, everything is so planned that another 200 beds can be added easily at any time without

Reinickendorf Hospital—Medical Pavilion.

greatly changing the administrative and operating plant. The cost of this hospital was 1,900,000 marks. The medical director is Professor Klemperer, of Berlin, and the surgical director is Dr. Kleinschmidt, of Charlottenburg.

At the main entrance of this institution is the administration building, and, passing through this, one enters the usual large park that characterizes all German hospitals. On the right and left are the medical and surgical buildings, and straight back is the laundry, kitchen, boiler house, and servants' quarters. To the extreme right and left corners of the grounds are the isolation pavilions and the pathological institute. The large pa-

vilions are so built that all the private rooms have their windows facing the south, and the large rooms (wards) have the main corridor running north and south, so that they have sunlight both forenoon and afternoon. In all, there are ten separate buildings, with space reserved for ten additional buildings.

The administration building, which has four stories, has rooms for the out-patients, private rooms for the medical directors, living quarters for the inspector, a sitting room and casino for the staff, and sleeping rooms for the nurses. The medical and surgical pavilions are of similar construction. The buildings consist of a central part with two wings, one of which is occupied by male patients and the other by the women and children. There are a number of small rooms holding from two to six beds. The largest wards have sixteen beds. On the top floor are quarters for physicians, nurses, and some of the help.

The operating rooms are in the rear section of the central part of the surgical pavilion. The large operating room is lighted from the sides as well as from above. There are a half dozen special rooms for instruments, for sterilization, for bandaging, for washing, and what not.

The isolation buildings are well separated from the rest of the hospital. In each there is a nurses' room, operating room, laboratory, small kitchen, wash room, and bath room. The pathological building is a gem, and deserves a more extended description than I can accord it in this letter. It is not only a practical laboratory of diagnosis, but a research institute as well, as are all these institutions in Germany. Regarding the laundry, kitchen, boiler house, electric plant, appliances for disinfection and sterilization, it can be said that they represent the last word in up-to-date hospital equipment. There are complete röntgen ray departments in both the medical and surgical pavilions.

But enough of all this description. Description is very unsatisfactory anyway, especially as applied to hospitals. If I have given a vague idea of this institution, it will serve my purpose, for the main point I wish to arrive at is, What does such an institution as this mean? It means clearly that Germany must be given the first place among nations in the development of municipal science. The individual is cared for in Germany by the municipality because municipal officials are especially trained for the positions they hold and are adequately paid for their services. The thing that we see in America of a special commission—such as a hospital board, for example, being made up of a butcher, a baker, and a candlestick maker—is a form of sport that the German citizen would not tolerate.

In Spain they have a saying, "Beans are cooked in every country," but first you have to catch your beans. Until we can train men to be experts in hospital construction and organization, and teach them the purposes that hospitals are meant to subserve, we must be content to amuse ourselves with our municipal institutions as they are at present conducted.

R. L. THOMPSON, M. D.,
Professor of Pathology, St. Louis University School of Medicine.

One of the largest families in the country is believed to be that of a 70-year-old Italian in the north end of Boston, who has been twice married and has twenty-eight living children. His present wife is eight years younger than his oldest son. His youngest child is three and his oldest grandchild twelve years of age.

LETTERS TO THE EDITOR.

A Correction.

To the Editor of THE MODERN HOSPITAL:

In Dr. Theodore C. Janeway's article in the October number of THE MODERN HOSPITAL, in the list of statistics of autopsies in American hospitals, compiled by E. H. Lewinski-Corwin, I notice that the Massachusetts General Hospital is credited, in 1912, with 429 deaths and 66 autopsies, giving a percentage of autopsies as 15.4. This is an error. Of the 429 deaths, 151 were autopsied at the hospital, giving a percentage of 35.4. In addition to this, 66 cases of the 429 were medico-legal, and may or may not have been autopsied at the city morgue. I have written to Mr. Lewinski-Corwin of this error.

JOSEPH B. HOWLAND,
Assistant Administrator.

A Correction.

To the Editor of THE MODERN HOSPITAL:

I wish to correct an error that occurred in the October issue of THE MODERN HOSPITAL where I was misquoted by the stenographer at the Boston convention. I was quoted as saying that our publicity campaign raised $16,000 from 14,000 people, when I said we netted $116,000, with 4,000 pledges in a town of 35,000 people. A fire-proof building, to accommodate 75 patients, is now under construction.

NETTIE B. JORDAN, Superintendent.

A Layman's Hospital Experience.

To the Editor of THE MODERN HOSPITAL:

The two copies of THE MODERN HOSPITAL have been received, and I congratulate you and your associates on this journalistic undertaking. The journal must certainly be appreciated by those in whose interest it is published.

I presume you will be interested in any matter pertaining to good hospital management, and am therefore prompted to write concerning an incident that occurred a few days ago. One of my assistants underwent an operation for appendicitis in a local hospital, and was very low for some time after the operation. As soon as it was permissible for persons to visit him, I was one of the first to call. I found him very weak; in fact, he could hardly talk. On a table near the bed he occupied were the requisites used in such cases, but on top of these articles, in plain view of the patient and of any visitors who might call, lay his bill for the first week's service.

I assure you, as a layman, this conspicuous exposure of the bill hurt me to the core, and made the cold-blooded side of the hospital business run up and down my back. I presume that the modern hospital must receive money for its service, but it seemed to me that the presentation of this bill to this young man at that time and in that manner was an act that would obviously not have a tendency to quiet his mental attitude or improve his physical condition.

I am of the opinion that the principle involved in this incident is a subject that could be very properly taken up by your journal, and I can assure you that, if it ever becomes necessary for me to enter a hospital for treatment, the thoughts of the appearance of that bill under the circumstances will be vividly recalled to my mind.

C. W. LEARY,
Manager of Sales, Troy Laundry Machinery Company.

CURRENT HOSPITAL LITERATURE

The Extension of Radcliffe Infirmary, Oxford. A Tour of the New Block with Captain G. C. Rynd, Secretary. Hospital, London, 1913, LIV, August 23.

The original institution, a Georgian building, was founded in 1770. The estimated cost of the extension is £25,000, of which £8,000 has been raised.

The New Kaiser-Jubilee Hospital of the City of Vienna (Das neue Kaiser-Jubiläumsspital der Gemeinde Wien). J. Klingsbigl. Ztschr. f. öffentl. Gesundheitspflege, Wien, 1913, I, No. 3.

The hospital is located on the west side of Vienna, close to an extensive public park. It has rooms for 1,000 beds and cost about $5,000,000. The article is accompanied by a number of plans and photo prints.

Service Retirement Allowances on Account of Old Age, and Service Disability Allowances. Booklets issued by the Prudential Insurance Company of America.

In two very handsome, embossed, gold and silver lettered booklets the company tells of its plan for taking care of those who have grown old, or who have acquired disability in the company's service. These are new social service plans, and detailed rules for their operation are given.

The Gymnasium at the Virchow Krankenhaus. A. Laqueur, Berlin, director of the Gymnasium. The Hospital, London, September 20, 1913.

All the exercises in the gymnasium are under the direction and the constant eye of the medical attendants. Exercises for different patients and different diseases are very carefully selected. Hydrotherapy and electrotherapy are in the same building and under the same medical directors.

The Tastet-Girard Hospital in Bordeaux. J. Vergely. Jour. de méd. de Bordeaux, 1913, LXXXIV, No. 32.

This hospital was founded by a benevolent lady, Madame Tastet-Girard. It consists of one large central building to which are attached two extensive wings. The hospital has two operating rooms, the larger one is twenty-six feet square, with the light coming from above and from three sides, and is considered one of the finest operating rooms in France.

Lady Williamson Memorial Home (Liverpool), Hospital, London, 1913, LIV, August 23.

The institution is a home or hostel for nurses in connection with the Liverpool Queen Victoria District Nursing Association, and was presented to the association by Sir Archibald Williamson in memory of his late wife. A diagram of the ground and first floor plan is given, with a general description of the building, of which Mr. F. C. Trench, M. A., is the architect.

Mental Hospitals—Past and Present. Editorial in The Hospital, London, October 11, 1913.

This is a recapitulation of what has been done for the mentally diseased, insane, idiots, epileptics, and imbeciles in England during the past century, including a reference to some of the lunacy laws of the period. On the whole, the writer thinks the mentally unbalanced are getting good care, and that really intelligent and scientific methods are being applied, both for prevention and cure.

Open Air Wards in Australia. A. P. Payne, secretary of the Brisbane Hospital. The Hospital, London, September 20, 1913.

This is a description of a 26-bed ward for acute cases, including surgery and children. Most of the space in the side walls is open and is protected by canvas blinds on American shade rollers. The author's final word is that the success of the open ward depends on the nicety of the mechanical contrivances to shut out the wind, rain and draughts.

Mental Deficiency in England. Symposium on the act of 1913. Sir Horatio Bryan-Donkin and G. E. Shuttleworth. Hospital, London, October 11, 1913.

This new lunacy legislation was brought about by representations made by responsible civic bodies, charging a want of proper care of the mentally diseased under existing laws. Sir Horatio takes up in his paper "The Treatment of Defectives and Further Research." Dr. Shuttleworth discusses the new law and "The General Scope of Its Provisions."

Some Often Neglected Points Relating to the Care of Infants and Young Children. Dr. Wm. P. Herbert. Southern Med. Jour.

This is a paper on the social service care of expectant mothers, the training of the women for their new duties, breast feeding, and an argument for natural feeding of infants; there is a part about the general care of children, another concerning the infectious diseases; the balance of the story concerns tuberculosis in children, the sources of infection, and an array of cases in point.

Indirect Lighting in a Small Hospital. F. Alex. McDermott, Lighting Journal, New York, October, 1913.

The writer, who is connected with the industrial research department of the University of Pittsburgh, describes the artificial lighting of the Samaritan Hospital, Ashland, Ohio. The article is well illustrated, but there seems to be nothing new proposed or described, and the figures of candle power, distances, heights, etc., are in common use, as are also the lighting fixtures, which are to be seen in any catalogue of the present day.

Discarded Warships as National Sanatoriums. Brit. Med. Jour., 1913, II, 881.

The *British Medical Journal* comments editorially on the advantages of using discarded warships as floating sanatoriums, especially for tubercular children. The ship is ineffective or out of date as a war vessel long before it has decayed as a sea-going ship. The idea seems to have been carried out first in Italy. The secretary of the Italian navy recently decided to convert three old warships into sanatoriums. Dr. Arthur Jacobson, of Brooklyn, was moved by this example to make an appeal to the American public, and it was brought to the notice of the Fourth International Congress on School Hygiene in Buffalo last August by Dr. S. A. Knopf. The *Journal* commends a similar action to the British admiralty authorities.

The New Central X-Ray Institute in the Royal and Imperial General Hospital in Vienna (Das neue Zentralröntgen institution k. k. allgemeinen Krankenhause in Wien). G. Holzknecht. München med. Wchnschr., 1913, LX, No. 29.

The building consists of fourteen large rooms and contains ten Röntgen apparatuses. The cost was about $40,000. A number of innovations in the arrangement of the various apparatuses are mentioned. Thus it is possible, by a system of exposition tables, to obtain at all times excellent pictures in a very simple manner.

The Sewage Purification Plant of Bergquell Hospital in Frauendorf, near Stettin (Die Abwasserreinigungsanlage der Heilanstalt Bergquell in Frauendorf, bei Stettin). Endris. Heilanstalt, Leipzig, 1913, VIII, No. 12.

Prussia has lately passed a law which strictly forbids the pollution of water courses by the sewage from schools, hospitals, military barracks, etc. In this article the author describes a small sewage purification plant for a hospital which can be constructed at a comparatively small expense. The purification plant of Bergquell Hospital did not cost more than about $1200. The managing expenses are quite insignificant.

Hospitals From The Patients' Point of View. Experiences in a Metropolitan Asylum Board Hospital. Hospital, London, 1913, LIV, August 30.

A scarlet fever patient tells of his sudden removal from hotel quarters during a business visit to London; of his reception and treatment by employees and nurses; of the happy outcome of his attack and release from hospital. "Peeling" continuing for three weeks thereafter, or nine weeks from contraction of the disease, and his convalescence on a dairy farm, where there were children, with no case of scarlet fever reported, either on farm or in the village.

The Groundwork of Hygiene of Hospitals with Reference to the Building of Hospitals for Cripples. Boethke. Ztschr. f. Krüppelfürsorge, Leipzig und Hamburg, 1913, VI, 166-182.

The author, who is a "Kaiserliche Baurat" of Berlin, gives at length his idea for the construction of a modern home and hospital for the care of cripples, including gymnasium, rooms for mechanical and hydropathic treatment, school room, and playground. He estimates the cost per bed at the least as 4,000 marks, exclusive of the ground price and furniture. For the furniture 600 marks per bed will be required, and naturally no estimate can be made for cost of land.

The Emperor William's Children's Home at Ahlbeck. Medner. Deutsch. Med. Wchnschr., 1913, XXXIX, No. 39, 1888.

Description and plans are given of this children's home designed to give a four-weeks' stay at the seashore to children from the city, whose health is endangered by bad hygienic conditions. There are two large and two small wooden pavilions, the large ones each accommodating twenty-five and the small ones twelve children; a building for the sisters, farm buildings, laundry, and a hospital building for sick children. They care for 150 children per month, and an attempt is to be made to determine scientifically the benefit to be derived from such a stay at the seashore. The entire cost of the institution was 300,000 marks, to be paid from the imperial treasury. It is probable that equally satisfactory results from a hygienic point of view could have been obtained at lower cost.

The New Cancer Remedies, Radium and Mesothorium—their Purveyance, Management, and Application (Die neuen Krebsheilmittel, Radium und Mesothorium, ihre Beschaffung, ihre Verwaltung, und Verwendung). T. Deneke. Ztschr. f. Krankenanstalten, Leipzig, 1913, IX, No. 32.

Experience has shown that a very large quantity, at least 150 milligrams, of radium or mesothorium is necessary to carry out a successful treatment of cancer. As the means of an ordinary hospital are not sufficient to procure these expensive remedies, the author advises that the respective state or city be asked to make a special appropriation for this purpose. Sometimes benevolent, wealthy men may be induced to furnish the necessary funds.

The Evolution of the Technic and Organization of Insane Asylums—Contribution to the Question of the Care of the Insane in the Province of Milan. (L'evoluzione della tecnica e dell' organizzazione manicomiale; contributo alla questione dell' assistenza degli alienati in Provincia di Milano). G. Antonini. Attualita medica, Milano, 1913, II, No. 5.

The author gives a short sketch of the development of the hospital for the insane from the old barrack-like structure of olden times to the village type of the present day. He considers the latter type the most suitable form of an insane hospital. At least fifty to seventy-five acres are, in his opinion, necessary to carry out the village plan. The article is accompanied by a great number of photo prints of German, Austrian, and Italian hospitals for the insane.

Need of Inexpensive Obstetric Nurses. W. C. Gayler. St. Louis. Jour. Am. Med. Assn., September 6, 1913, p. 787.

This is a short article deploring the scarcity of "practical" obstetric nurses. There are two classes of these nurses now at work, Dr. Gayler says: first, those who feel quite equal to the duties of the obstetrician without the service of the doctor, though they are hopelessly ignorant; these sometimes perform abortions and are the ones who bring the "practical" nurse into disrepute; second, those who are really efficient under the physician's directions; these are always busy and soon raise their fees so that they are out of the reach of the family of limited means.

Fundamental Principles in the Construction of the City Hospital of Munich-Schwabing (Grundsätze für den Bau des städtischen Krankenhauses München-Schwabing). Brunner. Ztschr. f. Krankenanstalten, Leipzig, 1913, IX, No. 36.

As the city of Munich has a higher altitude than any German capital (1600 feet), and as the day and night temperature is very changeable, the designers of the new hospital considered it best to avoid the erection of a number of small low buildings. They built one large three-story structure. The sick rooms contain only from 1 to 4 or 5 beds. The rooms are all ranged along the south side of the building, while the corridors run along the north side. The hospital is provided with artificial ventilation. A special detached building receives the patients with infectious diseases.

The Necessity for State Endowed Hospitals and a State Medical Service. J. C. McWalter. Medical Press and Circular, 1913, XCVI, 373.

McWalters traces the history of hospital development from the days when hospitals were merely lodging houses for pilgrims and strangers—conducted by members of religious orders, and when hospitality, not cure of disease, was the dominant motive—up to the elaborate architecture, equipment, and research of the modern hospital. He points out that the benefit of all modern dis-

coveries for the treatment of disease—light cures, electric cures, mechanical apparatus, improved diagnostic methods, vaccine and serum therapy—should be available to every citizen, not as a charity, but as a right, and that the only way to accomplish this is to have hospitals endowed by the State.

The Elisabeth Sanatorium at Neubabelsberg. The first private tuberculosis hospital near Berlin. W. Freymuth. Ztschr. f. Krankenpflege, Berlin, 1913, XXXV, No. 9.

The sanatorium is located about twenty-five miles southwest of Berlin, in the center of extensive forests. The institution admits patients of both sexes as well as children. As curative means of the sanatorium are mentioned: 1, a series of balconies and open halls for open-air treatment; 2, a physiotherapeutic annex for hydrotherapy, electric light treatment, and the most common methods of electrotherapy; 3, a large inhalatorium; 4, a well-furnished operation room (special attention is paid to operative treatment of laryngeal tuberculosis and to treatment of pulmonary tuberculosis by artificial pneumothorax); 5, a bacteriological and serological laboratory. The institution is open throughout the year.

The Infants' Ward in the New Vienna Children's Hospital. Ernst Mayerhofer. Ztschr. f. Kinderheilkunde, 1913, VIII, No. 5, 384.

A plan is given of the infants' ward in the new Vienna children's hospital. It is on the second floor, facing south, and the flat roof above is also fitted for use. There are 12 beds in four spacious rooms, so arranged that two of them can be used for isolation rooms in infectious cases. There is a shower bath so arranged that water of the desired temperature can be turned on with the foot. The infants are previously covered with soap, and the nurse holds them with both hands under the shower, thus enabling her to bathe them very rapidly and without standing in a stooped position. There are six nurses to care for the twelve infants—a ward nurse, the head of the diet kitchen, and four sisters who take monthly turns as head nurse, assistant, and night nurse.

The Age Limit. Sara E. Parsons. Am. Jour. Nursing, Baltimore, 1913, XIV, October.

The writer claims as first consideration the school of training. If on duty twelve hours a day, and if placed in wards immediately in charge of patients, with little instruction, or, if required, the entire care of male patients, she protests against the young (23-year-old) probationer. Age need hardly be considered if standard education is sufficiently high—not less than three months, and six or more if necessary. Her statistics show that 40 or 50 percent of probationers entering under 20 years of age are not accepted. Of those who were, however, many made good—their youthful buoyancy and ability to react after depressing experiences proved a real asset in their favor. Miss Nutting, at the recent convention, considered the age of the applicant not so important as the kind of school the girl would enter.

Long Hours of German Nurses. E. Krukenberg. Zentralbl. f. allg. Gesundheitspfl., 1913.

The author refers to an investigation made in 1911 to ascertain the conditions under which nurses worked in Prussian hospitals. Three thousand institutions, with about 280,000 beds, employed about 31,000 female nurses. Of these 41 percent were on duty from fourteen to seventeen hours a day. The number that worked from thirteen to fourteen hours amounted to 40 percent. Such conditions, which are happily impossible in this country, are in part due to the fact that the "trained nurse," as we know her in this country, is not the rule in Germany. Moreover, a large part of the nursing is done by members of religious orders, to whom the work means a degree of personal sacrifice not expected from regular nurses. The drain on the strength of even the strongest means generally less efficient service to both patient and physician, and should therefore, according to the writer, be diminished by the introduction of a more humane system of service.

Isolation Rooms in Residences for Care of Patients Suffering with Contagious Diseases. A. J. Ochsner, M. D., Chicago. International Clinics, Vol. II, 23d series, 1913.

Dr. Ochsner in a brief paper describes how a suite of rooms can be prepared in a private house for isolating a patient with some contagious disease, or caring for an obstetrical case, or for some noncontagious trouble. His plan, as shown in a small diagram, is good, but the reviewer feels that such a scheme, as proposed, is suited only to the rich, who build their homes with a view to this end. It would be quite impossible for the average householder to carry out such a plan as advocated, and the more we hear about contagious diseases the more unlikely it seems that isolating a patient in this extreme way is necessary. The entire subject of isolation needs reconsideration and revision. The American public is hysterical and quite irrational in its view as to the dangers of lepers, and many states, while handling the rare cases of this disease in a perfectly heartless and brutal manner, pay no attention to the much greater dangers of syphilis and gonorrhea, which are not isolated at all.

The Hospitals and Homes of England. The Right Honorable John Burns, Hospital, London, 1913, LIV, August 16, 23.

In his address at the International Medical Congress on the Relations between Medicine and Public Health, Mr. Burns traces the increasing importance of institutional life and institutional methods in the treatment and prevention of disease. He predicts the greater benefit in future of many of the large capital expenditures on hospitals. In the large percent of deaths from phthisis and cancer occurring in public institutions, the writer notes the relief to the over-burdened family, as well as the release from risk of infection. He claims the universal excess of disease in town and country would have been much greater had it not been for the assistance obtained from the hospital. In 1911, 24 percent in England and Wales, and 47 percent in London of total deaths from cancer occurred in public institutions. In the United Kingdom, in 1911, there were 49,854 beds in voluntary hospitals, or about 11 beds to 10,000 inhabitants. In 1896 the hospitals had an income of £2,528,000, which by 1911 had increased to £4,185,000.

Japanese Hospitals. Steinitz. Deutsch. med. Wchnschr., 1260.

The writer gives his impressions of Japanese hospitals, which are, in general, modeled after similar German institutions, even the histories being in part taken in German. The pavilion system is used almost exclusively, and, owing to the ever-present danger of earthquake, are constructed of wood and are usually only one story high. The wards are light, and are, in contradistinction to private homes, heated in winter. The wards, containing from 6 to 30 beds, are fitted in the usual manner, although in the older hospitals one may find the native floor bed. One

striking feature is the fact that male and female patients are placed in the same ward, made possible through the native lack of false modesty. The family of the patient is permitted to visit him the whole day and may assist in his care. The writer frankly confesses the superior quality of Japanese nurses over the German. There are also more of them than he finds at home. In these institutions the food consists of an abundance of meat, which is in contrast with the rice diet to which the natives are accustomed at home. The cost of caring for each patient amounts to about 30 cents per diem.

A New Esophagoscope. Richard Lewisohn. New York Medical Record, October 4, 1913, 648.

Dr. Lewisohn presented a new esophagoscope based on the principle of a rectangular telescope. Its advantages over the old straight esophagoscope are that it can be introduced in a normal position of the head, and it is so constructed that it actually passes in the longitudinal axis of the esophagus and not at an angle to this axis. It is a right-angular instrument, with a light attachment at the proximal end of the horizontal tube and a mirror at the junction of the horizontal and vertical parts. The vertical part consists of six telescopic tubes, the uppermost of which carries two metal guides. These guides lead the way into the esophagus. With this aid one can easily enter the mouth of the esophagus and anchor the instrument within its upper part. All further manipulations—evolving the telescope, etc.—are of course done under the guidance of the eye. The aspiration of mucus is done either with a piece of rubber tubing attached to a Killian bottle or by means of an applicator. A forceps has also been constructed which will make possible not only the excision of specimens for microscopical diagnosis, but also the removal of foreign bodies.

Bispebjærg Hospital. The new municipal hospital in Copenhagen, Denmark. Hospitalstidende, 1913, LVI, No. 38, 1085.

After the establishment, in 1863, of the Municipal Hospital of Copenhagen, Denmark, the percentage of mortality in this city began to decline. But the demand for additional hospital facilities increased steadily until the erection of an additional large hospital became necessary. This, the Bispebjærg Hospital, was opened this fall.

The population of Copenhagen is about 600,000. The municipal hospital has 844 beds, and was built at a cost of 3,262 kroner ($816) per bed. Bispebjærg, also a municipal institution, has 1,278 beds, and the cost of erection amounted to 7,080 kroner ($1,770) per bed. This hospital was built on the pavilion plan, with an area of 162 square meters per bed. Six pavilions, one-half of the projected number, have been built. They are arranged on terraces on the side of a hill, in the general direction of southeast and northwest, and surrounded at a sufficient distance by a group of administration buildings.

The hospital pavilions proper are two-storied structures, Each story is divided into two symmetric halves, connected by a common day-room, the lower ones connecting with gardens, and each building opening on a garden with its south front. A hall runs through the whole length of the building, and opening on this, in each story on each side of the day room, is one room for single patients, one for three, and one for six patients. At each end the hall opens into a ward with 16 beds.

On the north side of each hall is a cooling room, serving for the preservation of infusions, serum preparations, etc., and a room for cleaning and storing utensils. This room also contains a steam sterilizer for the immediate treatment of spitting cups, and racks with bags for dirty linen, the bags being closed and sealed by the nurse in charge before being sent to the laundry.

The floors are made of magnesite on a concrete-and-steel structure, the upper covering being linoleum. Large windows admit light so abundantly that dark hangings are necessary for the comfort of the inmates. All windows are double, the upper part of the inner ones and the lower part of the outer ones being movable, so that fresh air is admitted without causing drafts. Local heat is produced by water heaters, and the general heating of the rooms is regulated from heat boxes in the basements, connecting with the general heating plant. The air, charged with 40 percent of moisture, is blown from the heat boxes at 18°R.

Each bed is equipped with a pull-bell connected with an alarm in the hall. On being sounded, it lights simultaneously a red lamp above the door of the ward from which the call comes, and this light continues until shut off by the nurse as she passes the entrance of the ward. Fresco paintings cover the walls, which can be washed clean in regular routine.

One peculiar feature of the plant is the lowered courtyards, which not only admit abundant light into the basements, but form natural stations in a network of tunnels connecting all the buildings on the large area of grounds (forty-seven acres), except the morgue. Through these "tunnels," which have been built light and spacious, and which accommodate all pipes, cables, etc., the transportation of patients and their supplies takes place.

The surgical department commands two pavilions, each with an operation room for minor work, and both these pavilions connect directly with a separate operation department consisting of a very extensive x-ray plant, two large operation rooms connecting with a common narcosis room, and store rooms. Adjoining is the pathologic-anatomical institute, equipped with exquisite laboratories for all kinds of work. Here and elsewhere every advantage offered by modern engineering has been utilized.

The nurses are lodged and boarded in a separate building, and there also are separate buildings for the baths and the laundry. In the administration building is housed a very large department of drugs and supplies.

The gardens and grounds have been connected into a park, where additional buildings, erected according to future needs, will, with those already built, form a harmonious entity.

Osler Asks Changes in Medical Education.

Sir William Osler thinks the curriculum of the medical schools in England should be greatly abridged, and that lectures should be abolished or shortened; subjects that cannot be treated in the wards might be dealt with in the seminar form. Present-day examinations, he thinks, have only the Chinese value of titanic tests of memory. The distinguished regius professor of Oxford gave some of these thoughts to the medical faculty in the annual address at St. George's Hospital recently.

"Medical education should begin," he further told his audience, "with a thorough training in physics, chemistry, and biology, and the student needs more time for quiet study, fewer classes and lectures, and the removal of the incubus of examinations, above all."

His cure for the examination evil was to have the faculty of the school certify to the work of the students during their courses.

INDEX OF HOSPITAL AND SANATORIUM LITERATURE

Alexander, R. M. An Inexpensive, Efficient Sputum-Cup. Jour. Am. Med. Assn., 1913, October 25, 1535.

Antonini, G. The Evolution of the Technic and Organization of Insane Asylums—Contribution to the Question of the Care of the Insane in the Province of Milan (L'evoluzione della tecnica e dell' organizzazione manicomiale—contributo alla questione dell' assistenza degli alienati in Provincia di Milano). Attualita medica, Milano, 1913, II, No. 5.

Bang, S. Hospitals of Copenhagen. Ugesk. f. Læger, 1913, September 18.

Beamish, J. M. Notes on the Surgical Base Hospital at Gazo and of the General Hospital at Alexandria, 1882-3. Jour. Roy. Army Med. Corps, London, 1913, XXI, 361-364.

Blackmore, Frederick J. C., Birmingham. The Growth of Municipal Sanatoria—Their Administration, Work, and Aims. The Hospital, London, September 20, 1913.

Brunner. Fundamental Principles in the Construction of the City Hospital of Münich-Schwabing (Grundsätze für den Bau des stadtischen Krankenhauses München-Schwabing). Ztschr. f. Krankenanstalten, Leipzig, 1913, IX, No. 36.

Bryan-Donkin, Sir Horatio, and Shuttleworth, G. E. Mental Deficiency in England. Hospital, London, 1913, October.

Burns, The Right Honorable John. The Hospitals and Homes of England. Hospital, London, 1913-14, LIV, August 16, 23.

Clark, Pliny O. The Church and the Hospitals. Hosp. News, Washington, 1913, I, 5, 7.

Deneke, T. The New Cancer Remedies, Radium and Mesothorium—Their Purveyance, Management, and Application (Die neuen Krebsheilmittel, Radium und Mesothorium—Ihre Beschaffung, Ihre Verwaltung und Verwendung). Ztschr. f. Krankenanstalten, Leipzig, 1913, IX, No. 32.

Deutsch, E. Pediatrics in Relation to General Welfare Work for Children. Arch. d. méd. des Enfants, 1913, September, No. 9.

Durodie. Expense Account of the Officers, Attendants, and Servants of St. Andrew's Hospital in 1704 (Etat de la dépense qui se fait par les officiers, domestiques, et serviteurs de l'hopital St. André en 1704). Gaz. hebdom. d. science méd. de Bordeaux, 1913, XXXIV, No. 29.

Endris. The Sewage Purification Plant of Bergquell Hospital in Frauendorf, near Stettin (Die Abwasserreinigungsanlage der Heilanstalt Bergquell in Frauendorf, bei Stettin). Heilanstalt, Leipzig, 1913, VIII, No. 12.

Franklin, L. M. Orthodox Jewish Customs in Relation to the Nursing Professions. Am. Jour. Nursing, Baltimore, 1913, October.

Freymuth, W. The Elizabeth Sanatorium at Neubabelsberg, the First Private Tuberculosis Hospital near Berlin. Ztschr. f. Krankenpflege, Berlin, 1913, XXXV, No. 9.

Frumm, G. The Lighting and Power Plant of the Kaiser-Jubilee Hospital (Die Beleuchtungs- und Kraftanlagen des Kaiser-Jubiläumsspitales). Ztschr. f. öffentl. Gesundheitspflege, Wien, 1913, I, No. 3.

Gilman, Alice Shepard. Preventive Tuberculosis Nursing. Am. Jour. Nursing, Baltimore, 1913, XIV, October.

Hauser, K. Technic and Management of the Heating Apparatus in Hospitals (Technik und Wirschaftlichkeit von Krankenhausheizungen). Ztschr. f. Krankenanstalten, Leipzig, 1913, IX, No. 38.

Heepke, W. Water Supply for Isolated Sanatoriums in a Flat Country. Heilanstalt, Leipzig, 1913, September 25.

Heepke, W. The Present Condition of the Sanitary Technical Appliances in Modern Hospitals (Der gegenwärtige Stand der gesundheitstechnischen Einrichtungen in neuzeitlichen Heilanstalten). Heilanstalt, Leipzig, 1913, VIII, No. 13.

Helwes. Architectural Arrangement of Wards and Hospitals for Infectious Diseases. Heilanstalt, Leipzig, 1913, September 25.

Hesse. Consolidation of the Information and Employment Offices for Consumptives with the Information and Employment Offices for Alcoholics (Die Kombinierung der Auskunfts- und Fürsorgestellen für Lungenkranke mit den Auskunfts- und Fürsorgestellen für Alkoholkranke). Deutsche med. Wchnschr., Leipzig und Berlin, 1913, XXXIX, No. 35.

Holzknecht, G. The New Central X-Ray Institute in the Royal and Imperial General Hospital in Vienna (Das neue Zentralröntgeninstitution k. k. allgemeinen Krankenhause in Wien). München. med. Wchnschr., 1913, LX, No. 29.

Hurst, Anna. A Day With the Hospital Nurse—Her General Round of Duties. Hosp. News, Washington, 1913, I, 9, 30.

Klingsbigl, J. The New Kaiser-Jubilee Hospital of the City of Vienna (Das neue Kaiser-Jubiläumsspital der Gemeinde Wien). Ztschr. f. öffentl. Gesundheitspflege, Wien, 1913, I, No. 3.

Krukenberg, E. Long Hours of German Nurses. Zentralbl. f. Gesundheitspfl., 1913.

Laqueur, A., director of the Gymnasium. The Gymnasium at the Virchow Krankenhaus. The Hospital, London, September 20, 1913.

Lund, Geo. A. What Would Be the Ideal Relationship of the Hospital Ship to the Fleet in Time of Peace. The Military Surgeon, Chicago, 1913, XXXIII, No. 4, 314.

May, E. Innovations in Modern Hospital Construction (Neuerungen im Bau moderner Krankenanstalten). Heilanstalt, Leipzig, 1913, VIII, 213.

Mayerhofer, Ernst. The Infants' Ward in the New Vienna Children's Hospital. Ztschr. f. Kinderheilkunde, 1913, VIII, No. 5, 384.

McDermott, F. A. Indirect Lighting in a Small Hospital. Lighting Journal, N. Y., 1913, October.

McMurtrie, D. C. Needs of Crippled Children in the State of Delaware. Delaware State Med. Jour., August, 1913, 1-26.

McWalter, J. C. The Necessity for State Endowed Hospitals and a State Medical Service. Medical Press and Circular, 1913, XCVI, 373.

Morat, J. P. Institutional Care of Obstetric Cases. Lyon Med., 1913, XLV, No. 35.

Medner. The Emperor William's Children's Home at Ahlbeck. Deutsch. med. Wchnschr., 1913, XXXIX, No. 39, 1888.

Orr, H. W. The Relation of Politics to the State Care of Crippled and Deformed. Jour. Am. Med. Assn., 1913, October 25, 1521.

Parsons, H. F. The Hospital Isolation of Infectious Diseases—Recent Methods of Isolation and Nursing. Hospital, London, 1913-14, LIV, 559.

Payne, A. P., secretary of the Brisbane Hospital. Open Air Wards in Australia. The Hospital, London, September 20, 1913.

Pleadwell, F. L. The Relationship of the Hospital Ship and Medical Transport to the Fleet in Time of War. The Military Surgeon, Chicago, 1913, October, XXXIII, 318.

Rasser, E. O. A Non-fading Washable Wall Covering. Heilanstalt, Leipzig, 1913, September 25.

Rosenberger, G. Hospitals and Federal Insurance (Krankenanstalten und Reichsversicherung). Ztschr. f. Krankenanstalten, Leipzig, 1913, IX, No. 40.

Smith, W. Maule. Size of Hospitals for the Insane and Feeble-minded. Boston Med. and Surg. Jour., September 25, 1913, 459.

Steinitz. Japanese Hospitals. Deutsch. med. Wchnschr., 1260.

Startny, J. The Structural Plan of Hospitals—a Belgian View (Die bauliche Anlage der Krankenhäuser—ein belgisches Gutachten). Ztschr. f. Krankenanstalten, Leipzig, 1913, IX, No. 36.

Stewart, Isabel M. Social Service in Hospitals and Dispensaries. Med. Rec., 1913, LXXXIV, No. 15, 657.

Tinker, M. B. Future of Trained Nursing in Surgery. New York State Jour. Med., 1913, October, 547.

Valagussa, F. Schematic Dietetic Tables for a Children's Hospital (Schema di tabelle dietetiche per ospedale infantile). Rivista ospedaliera, Roma, 1913, IV, No. 7.

Vergely, J. The Tastet-Girard Hospital in Bordeaux. Jour. de med. de Bordeaux, 1913, LXXXIV, No. 32.

Washburn, F. S. Hospital Management—Needs of the Future in Hospital Administration. Boston Med. and Surg. Jour., 1913, CLXIX, 449-451.

Wejmola, F. The Heating and Ventilation Appliances of the Kaiser-Jubilee Hospital (Die Heiz- und Lüftungsanlagen des Kaiser-Jubiläumspitales). Ztschr. f. öffentl. Gesundheitspflege, Wien, 1913, I, No. 3.

Miscellaneous.

A Modern Hospital. (Un hopital modèle a Aix-les-Bains foundation Pierpont Morgan). Paris méd., 1913, XII, suppl., 121-123.

Bispebjaerg Hospital. The new municipal hospital in Copenhagen, Denmark. Hospitalstidende, 1913, LVI, No. 38, 1085.

Discarded Warships as National Sanatoriums. Brit. Med. Jour., 1913, II, 881.

Epileptic Hospital—Hospital for Epilepsy and Paralysis (London). Hospital, London, 1913-14, LIV, 563.

Hospitals From the Patients' Point of View. Experiences in a Metropolitan Asylum Board Hospital. Hospital, London, 1913, LIV, August 30.

Mental Hospitals—Past and Present. Editorial in The Hospital, London, 1913, October 11.

Temperature and Humidity in Hospitals. Editorial in Jour. Am. Med. Assn., 1913, October 25.

The Hospital and the Bond Issue. Lancet-Clinic, Cincinnati, 1913, CX, No. 15, 1.

The Insane Story Weaver of Gardner.

There "resides" at the Gardner, Mass., State Colony for Incurable Mental Cases a woman who has aroused the keenest interest of everybody who comes in contact with her. Her mental state is of the most hopeless type, and she scarcely has the power to evaluate the simplest facts of everyday life; even her food she eats just as it is given to her, without question as to kind, quality, or quantity. Her one interest in life is the work of weaving baskets of colored raffia. The fiber given to the patients is stained in many colors and shades, and is very flexible, so that they can handle it easily. Many of the patients do beautiful work in this material, but the woman of whom we write has developed a veritable genius, an uncanniness that gives one almost a creepy feeling to look at it; it is the pictures she makes in her weaving, the combinations of colors and shades, the figures she evolves. She herself calls them her children, and they are the creatures of her mental fancy, distorted as her own mental state, grew-some beyond description, and suggestive of coffins and ghosts and shadowy things of unearthly origin.

Sometimes she will tell her companions, as she seats herself for the day's work, that she is going to tell her dream of the night, and it is then that she weaves a panorama of horrible fancies, little groups of figures, complete scenes; sometimes there are prison bars and chains (though she has never known physical restraint since she came to the colony many years ago, longer ago than any of the present residents know); there are skeleton hands reaching in, toads with great bright eyes shining from the slippery floor; there are shadowy figures back in the semi-darkness. Sometimes there are grave scenes; and, again, there are scenes of murder and blood, and bleeding babies with skeleton hands gripping their little bodies, and drops of blood oozing through the ghastly, bony fingers.

Sometimes her vagaries take a geometrical turn, and she weaves the most involved combinations of angles and squares and curves, interwoven and fitted together in the most grotesque patterns. Sometimes, and these moods are usually on damp, cloudy days, when everybody is disposed to have the "blues," her mood changes to sunshine and flowers and gaily dressed children, playing with lambs and wreaths. If questioned about the stories she tells in her weaving, she makes no answer—indeed, seems not to comprehend the question. She seems unable to explain any of her work, but Dr. LaMoure and Mrs. LaMoure, the superintendent and his wife, have taken an immense amount of interest in this woman, and her baskets are the most popular of all with the rich residents of the town of Gardner, nearby, and with the many visitors from Boston.

A Sanatorium or a Gas Well?

What is going to happen in Almond next is the main question, exclaims the Elmira (N. Y.) *Advertiser.*

"George Young may sell his well to a noted physician, who is thinking of starting a sanatorium. Men come and go as they taste these healing waters. People with backache take a drink of this water, and forget and go to work, and work all day without thinking any more about their kindred ills. At certain times this well, which is about 1,400 feet deep, takes a start and flows for hours and then settles down to its duty again. There has been a constant flow of gas for years, in spite of all the water that the well contains. It was drilled about twenty-five years ago, while prospecting for oil—old Doctor Sweet, of Hornell, was the man at the helm that caused its existence. Mr. Young now thinks that twenty rods further east might land on oil territory."

Carondelet, the southern suburb of St. Louis, is to have a $20,000 hospital, to be called the "Matilda."

NEW EQUIPMENT

Surgical Beds.

Hospital administrators are besieged with an infinite variety of invalid beds of all sorts, each one having more or less plausible advantages. Robbed of all sorts of individual ideas of inventors, we might consider these beds as appertaining to certain required service in hospitals. As

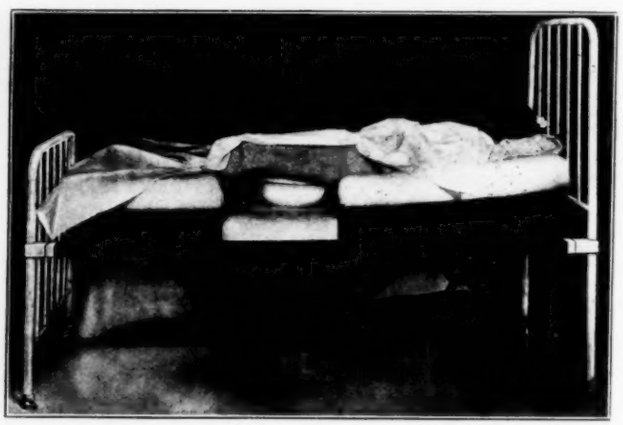


Fig. 1. Wallace adjustable bed.

a rule, a medical patient does not require any special bed, except that it should be high enough to enable the nurse to handle the patient without stooping over very much, and it should be strong, so that it will not give way at a

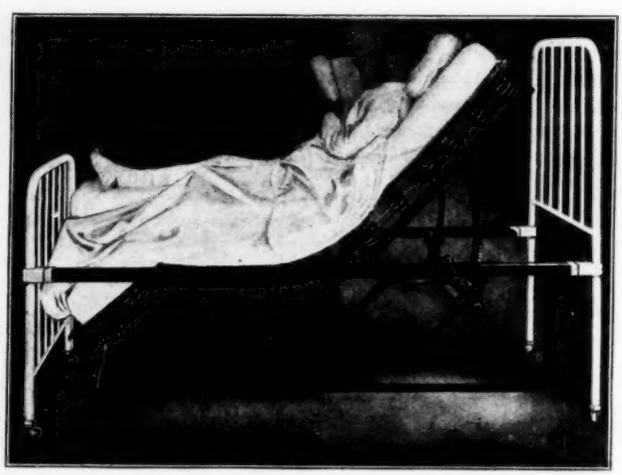


Fig. 2. Wallace adjustable bed.

critical moment when the patient is being moved. The spring and mattress of the beds for medical patients are more important than the mechanism of the bed itself, and several matters must be taken into consideration. The spring and mattress upon which the patient lies should be as yielding as possible, so as not to cause pressure sores, or bed sores. The mattress or spring that will permit of a uniform pressure over every part of the patient's body that touches it will be the best. There are bony prominences, as a rule, and a hard bed will permit undue pressure at these points, and that is what causes sores. Water mattresses and air mattresses are usually employed in these cases because the contents are sufficiently yielding to make an even pressure everywhere on the patient's body. Now we have the so-called ventilated mattress that serves the same purpose. These are practically box mattresses, with a great many springs inside, so that very little felt or hair is required on top, and there are a great many spiral springs. There are openings at frequent intervals in the sides of the mattress, so that there can be a constant circulation of air immediately under the patient's body.

In the surgical beds something very different is required. Very often patients must lie perfectly still because of certain surgical conditions, and all of their physical wants must be attended to without any movement of the patient whatever; then there are certain surgical positions that must be attained without the patient having to help in the process of moving. Oftentimes a patient must

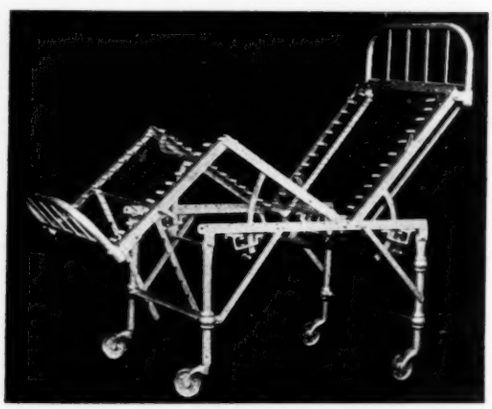


Fig. 3. Way invalid chair bed.

be placed by mechanical means in a certain position when it would be hazardous to allow him to place himself in the same position because of the necessity to bring into play certain muscles and certain bones that are supposed to be at perfect rest. The Fowler and Trendelenberg positions are often necessary immediately following surgical operations. As a rule, patients are placed in these positions while they are still under the anesthetic, and they cannot help themselves in any way or participate in the attempt to get them into the proper positions even if it were not hazardous for them to do so. Herewith are presented three illustrations showing perhaps the most familiar devices for surgical patients.

It will be seen that in two of these devices the whole bed is included, and that these two devices differ in that the weight of one (Figs. 1, 2) is on the four feet at the corners of the bed, whereas in the other (Fig. 3) the bed is practically pivoted from a central point and the head and feet project over. In this latter case there is the thought of the possibility of the bed tipping over with the patient, and of course the device must be so built that this cannot occur. The advantage of this bed obviously is that it can be moved easily, and that its parts are simple and not complicated. Almost any of the surgical positions can be had with this bed.

It seems the chief advantage of the second bed is its adaptability to the patient's physical necessities. The center-piece can be lowered so that the bed pan can be slipped under, while either the Fowler or Trendelenberg position is easily attained by the windlass mechanism. This bed suggests the idea of complicated mechanism, which, while it will not necessarily get out of order, means time and energy in cleaning.

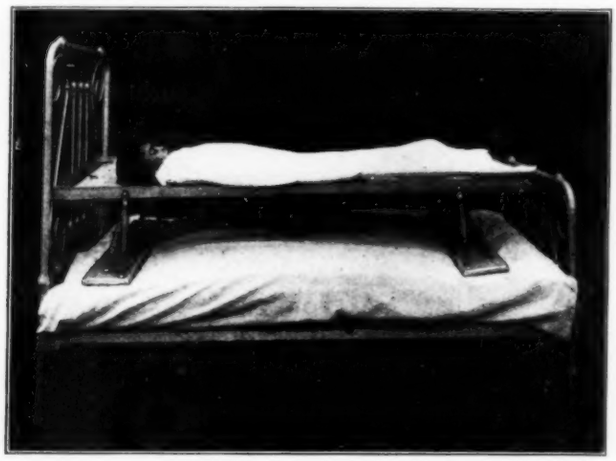


Fig. 4. Warlick supplemental invalid bed.

The third device (Figs. 4, 5) is not a bed at all, but a simple metal frame, with a properly constructed canvas cover for the patient to lie on. The two end-pieces allow either the head or foot to be raised. The canvas is in one piece, with brass rings around the sides and ends for fastening into hooks in the frame. It might be better if the canvas were in three parts, so that the middle part—say, a foot in width—could be taken out for use of the bed pan, although there is now a circular hole through the canvas for that purpose, but the edges of the hole are likely to be soiled.

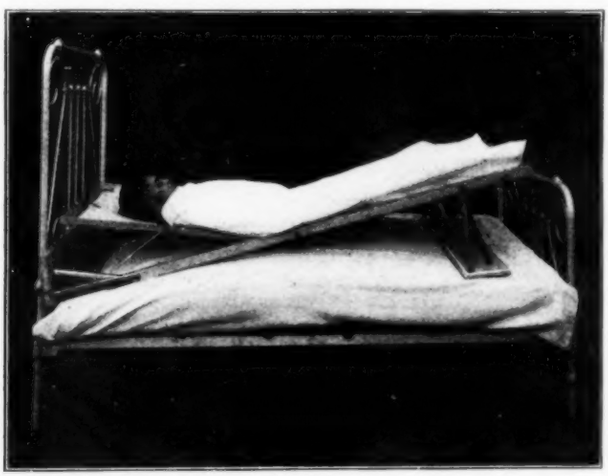


Fig. 5. Warlick supplemental invalid bed.

There are innumerable beds on the market, but the principles employed in these three will cover most of the others. Obviously no hospital will want these beds for all its patients, and no doubt different administrators will be attracted by one as against another of these devices, but every hospital should have one of these surgical beds to each half dozen or dozen ordinary beds, so that they could be employed when necessary.

Legacies for Hospitals.

By the will of the late Bernard Wolbarst, of New York, the sum of $1,000 is bequeathed to Beth Israel Hospital of that city.

By the will of the late Elizabeth Dorsey of Philadelphia, who died at Colorado Springs, Col., bequests are made as follows: $1,000 to the Woman's Hospital of Philadelphia, $500 to the Germantown Hospital, $2,000 to the Adirondack Cottage Sanitarium at Saranac Lake, N. Y., and $1,000 to the endowment fund of the Colorado Cottage.

The Massachusetts General Hospital of Boston receives $30,000 and the Boston Children's Hospital $25,000 by the will of the late Miss Harriet O. Cruft of that city.

By the will of the late Julia Garrett of Philadelphia bequests are made as follows: $50,000 to the Orthopedic Hospital and Infirmary for Nervous Diseases, to endow the William Evans Garrett Memorial Ward, $25,000 to the Pennsylvania Epileptic Hospital and Colony Farm at Oakbourne, $10,000 to the Bryn Mawr Hospital, as a memorial to William E. Garrett, Jr., and $10,000 to the Episcopal Hospital.

By the will of the late Fanny R. Dickson of Philadelphia the sum of $5,000 is bequeathed to the trustees of the University of Pennsylvania for the maintenance of a bed already established in the orthopedic department of the University Hospital.

By the will of the late Margaret H. Frederick of Philadelphia the sum of $5,000 is bequeathed to the Hahnemann Hospital and the sum of $250 to the Ladies' Aid Society of the Presbyterian Hospital.

By the will of the late Cornelius A. Lane, of Philadelphia, the sum of $5,000 is bequeathed to St. Vincent's Home and Maternity Hospital, $500 to St. Joseph's Hospital, $500 to St. Mary's Hospital, and $500 to St. Agnes' Hospital.

A Pean of Praise.

Editorial sanction of ragtime in the hospital comes from the Springfield (Mo.) *Republican*, because the editor does not want to be reminded of his editorial sins or the possibility that he may be on the way to receive his punishment. He sings as follows:

"We are not accustomed to look for anything good to come out of Wichita. That is why we are so surprised to hear a particularly sensible and timely note sounded there with respect to a matter which has long needed to be treated in just that way. Why it has not been elsewhere, and long ago, we are at a loss to know.

"Wichita hospitals have adopted a rule that only bright and happy songs shall be sung by persons visiting those institutions to cheer the patients with music. There must be no allusions to death, nor to sorrow or its concomitants. Singers whose repertoire consists only of selections of the kind tabooed will be asked to save their vocal efforts for other places than hospitals.

"A sensible idea, assuredly. Who, flat on his back in a hospital, with possible Death leaning over the pillow, wants the task of feeling cheered up over songs relating to 'The Sweet Bye and Bye,' 'Over There' or 'Waiting and Watching for Me'? Not we, let it be set down. We are not at all partial to the 'popular songs of the day,' but when we are sick it's the kind of singing we call for. None of the resigned-to-death kind for us while there's a fighting chance to recover.

"The Wichita hospital idea is a fine one. People all over the country will want to get sent there when they are sick—or perhaps the same rule can be adopted in other like institutions."

A children's hospital will be erected early next year in connection with the Lynn (Mass.) Hospital.

QUERIES *and* ANSWERS

Gas-Oxygen Anesthesia.

To the Editor of THE MODERN HOSPITAL:

To what extent is gas-oxygen anesthesia replacing ether, and what are the essentials for its use? J. W. T.

At the Lakeside Hospital nitrous oxid-oxygen has displaced ether to the extent that all general surgical operations are routinely started with nitrous oxid-oxygen anesthesia, and in most cases this is continued throughout the entire operation. The ether attachment is, however, always on the gas machines ready for instant use, and, if surgical anesthesia cannot be produced readily with the gas alone, or if deep anesthesia is required at any moment, the ether is turned on for as long as is necessary and then the gas used alone again. Ether is always used in preference to suffocation with nitrous oxid. In some patients sufficiently deep anesthesia cannot be attained by the use of gas without reducing the amount of oxygen too far below the normal amount. For throat operations ether alone is often used and is given by the old cone and drop method.

The results of more gas and less ether in the hospital are less post-operative discomfort, vomiting, etc.; less irritation to eyes, nose, throat, and bronchi; less pneumonia and less shock, and also less dread of operations because of a lessened dread of taking the anesthetic and its after-effects. At the Lakeside nitrous oxid-oxygen anesthesia, with the addition of a little ether in the occasional case, is believed to be the safest and best anesthetic as well as the least unpleasant to take.

But it requires a more experienced person to give a good anesthetic with nitrous oxid-oxygen than with ether; the reflexes used for determining the condition of the patient are fewer and harder to interpret than in ether anesthesia. There is a smaller margin of safety, which makes any attempt to force the gas or hurry the narcosis distinctly more dangerous for beginners to attempt. Our house officers used to give fairly skillful and entirely satisfactory ether anesthesia, but they cannot give satisfactorily gas anesthesia. Professional anesthetists, expert in the use of nitrous oxid, are necessary. In the hands of a novice gas anesthesia is more dangerous and less satisfactory than ether under the same conditions. An even flow of pure gas at constant pressure and at room temperature is also essential for good gas anesthesia. This we secure by storing the gas in the basement in stationary tanks at not over 150-pound pressure at least twelve hours before it is used. Each tank holds a day's supply, and is tested for purity before use. On each of our two tanks are reducing valves, releasing the gas evenly at 35-pound pressure, and the gas is conducted to the operating rooms by open piping. We fill one tank and use from the other on alternate days. We manufacture our nitrous oxid, and, through the interest of Mr. H. M. Hanna, are able to give the process painstaking attention and to experiment with methods and apparatus in an effort to improve on the process of purification and to devise the apparatus for an absolutely safe method for the manufacture of the nitrous oxid gas in hospitals. At present we do not recommend that hospitals manufacture gas, except as an experiment, as the apparatus and methods now in use are neither safe nor economical in the hands of the inexperienced. We recommend the purchase of nitrous oxid in large cylinders (3,200 gallons compressed to liquid form), and that stationary tanks be filled from these at low pressure (100 to 150 pounds) and used as above. The use of small or high-pressure tanks in the operating room will never be entirely satisfactory.

A. R. WARNER,
Assistant Superintendent Lakeside Hospital, Cleveland.

Care of Hospital Flooring.

To the Editor of THE MODERN HOSPITAL:

1. What is the best disinfectant and the best cleanser for the average patent flooring for hospitals?
2. What is the best way to treat battleship linoleum as a hospital flooring?

MRS. C. J. BEGGS,
Puunene Hospital, Puunene, Maui, Hawaii.

1. We are not quite sure what you mean by "patent" flooring. There are perhaps fifty varieties of composition and granitoid floors, with trade names, copyrights, and patents. These floors have either a basis of cement, with chips of granite mixed in, or they have a basis of oil and cork or sawdust. These latter floors are sometimes called plastic linoleum, and have not been used long enough to determine their acceptability. In the September number of THE MODERN HOSPITAL we discussed somewhat the granitoid floors, one variety of which is called "terazzo."

The care of these floors is practically the same in the two cases. Soap and hot water are the best possible disinfectants and cleansers, and, if these can be applied with an old-fashioned scrub brush, with the worker on her knees, the work will be done more satisfactorily than otherwise. There is very little value in the chemical disinfectants, such as bichlorid solutions and the phenols, as applied to floors; these would be good if there were pores and hiding places for microorganisms, perhaps, but even in that event these pores would have already been filled up by pastes made of dirt and water, and disinfectants would probably not penetrate. If your floors are porous, they had better be well covered with one of the cement waterproof paints; if terazzo or impervious lithics, soap and hot water.

2. Dr. Howard, superintendent of the Peter Bent Brigham Hospital, is in the habit of leaving his battleship linoleum floors uncovered for about a year after they have been laid, and then he varnishes them with ordinary spar varnish and treats them just as he would a maple or oak floor. In some places these linoleum floors are waxed, and this is excellent treatment if the process can be renewed every two or three weeks. The wax can be polished with heavy weight polishers.

The medical department of the Medical College of Virginia at Richmond has asked the city authorities for a $500,000 new city hospital to be affiliated with the school. There are many hindrances, and the matter has been deferred to a later date. Everybody seems favorable to the plan if the city felt able to devote the necessary amount of money for the new buildings. Joint committees of the city and school will now see if the scheme can be worked out.